

THE  
**RAILWAY GAZETTE**  
A Journal of Management, Engineering and Operation  
INCORPORATING  
**Railway Engineer • TRANSPORT • The Railway News**  
**The Railway Times • Herapath's Railway Journal**  
**RAILWAYS ILLUSTRATED** ESTABLISHED 1835 **RAILWAY RECORD.**

PUBLISHED EVERY FRIDAY

AT

33, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1

Telegraphic Address: "TRAZETTE PARL., LONDON"

Telephone No.: WHITENALL 9233 (12 lines)

Annual subscription payable in advance and postage free  
British Isles and Abroad ..... £2 5s. 0d.  
Single Copies ..... One Shilling  
Registered at the General Post Office, London, as a Newspaper

VOL. 87 No. 21

FRIDAY, NOVEMBER 21, 1947

## CONTENTS

	PAGE
Editorial Notes .....	573
Railway Wagon Shortage .....	575
Defend Private Enterprise in Transport .....	575
Will "C" Licences Sabotage Rail and Road Co-ordination? .....	576
Movement .....	576
The Administrative Function .....	577
Letters to the Editor .....	579
The Scrap Heap .....	580
Overseas Railway Affairs .....	581
Publications Received .....	582
A Powerful Freight Locomotive for Peru .....	583
New Block Telegraph Instrument for G.W.R. ....	585
Two New London Transport Stations .....	587
Stainless-Steel Prototype Composite Coach .....	588
Personal .....	591
R.C.H. Goods Managers' Conference Centenary Dinner .....	594
Modern Methods of Handling Goods Traffic at Railway Stations .....	595
London Transport De-Icing Equipment .....	595
Welsh Inter-Railway First-Aid Competition .....	596
Two New London Transport Stations .....	596
British Successes in U.S.A. Welding Competition .....	596
Questions in Parliament .....	596
Notes and News .....	598
Official Notices .....	599
Stock Market and Table .....	600

1947-1948 Edition now ready

## UNIVERSAL DIRECTORY OF RAILWAY OFFICIALS AND RAILWAY YEAR BOOK

Particulars and List of Officers of 2,100  
Railway Administrations throughout the World

Price 20s.

Post Free 20s. 6d.

**THE RAILWAY GAZETTE**  
33, TOTHILL STREET, WESTMINSTER, S.W.1.

## The Autumn Budget

MR. DALTON'S Autumn Budget details have been overshadowed very largely by the events which came to swiftly after it, but generally the relatively minor changes which he imposed have not engendered much confidence that the inflationary gap will be closed. Doubling of the profits tax, increases in purchase tax rates, a 10 per cent. tax on football pool and dog totalisator betting, and an addition of one penny a pint to the beer duty, coupled with higher levies on wines and spirits, with certain other minor modifications, are estimated to yield £48 million this year, and £208 million in a full year. Tax allowance for advertising expenditure is cut from 100 to 50 per cent., but exemptions to this provision include advertising for export and in the trade and technical press, a welcome dispensation in view of the ever present need to stimulate the sales of British manufactures in overseas markets. It is also an indication of the importance the Government attaches to this form of advertising. The general impression of the Budget, taken as a whole, was that the relatively minor impositions of additional taxation were in striking contrast with the gravity of the national situation, and would serve merely to augment a Treasury surplus rather than to cope seriously with the problem of adjusting purchasing power to production for the home market. There seems good ground for the impression that the Autumn Budget is merely a first step, and that more drastic action may be necessary in the Spring, especially in the realm of Government expenditure.

\* \* \*

## Sir Stafford Cripps's Dual Post

As a result of a premature disclosure of the contents of the Budget by the Chancellor to a Lobby correspondent, Mr. Dalton resigned the Chancellorship the day after the presentation of the Budget, and Sir Stafford Cripps, Minister of Economic Affairs, succeeded him at the Treasury. There has been widespread sympathy in the consequence of a momentary indiscretion, and inevitably in some quarters criticisms have been made of the circumstances which made it possible. The privileges which attach to membership of the Lobby Correspondents Group in the Houses of Parliament are considerable, and occasions on which there can be any criticism on the manner in which its members conduct their business are exceedingly rare, especially in the light of the confidences which are reposed in them. The established practice of permitting journalists to function in the lobbies is a valuable safeguard to the public. The abolition or stringent curtailment of this practice would place another barrier between Government and people and would be a further step towards autocratic government. The merging of the functions of the Chancellor of the Exchequer with those of the Minister of Economic Affairs in the person of Sir Stafford Cripps will unify the two arms of the weapon against inflation and should ensure complete co-ordination of financial and physical resources.

\* \* \*

## British Diesel Engine Exports

Makers of oil engines in this country have been asked to achieve an export target at the end of 1948 of £1,000,000 a month, which represents an increase of nearly 20 per cent. on 1946, and as exports represent 92½ per cent. of its total exports measured in sterling, this is no mean task. It is of special interest, therefore, to learn that British oil engine firms, always a highly competitive group, recently have pooled their knowledge and experience in a combined approach to foreign markets. This takes the form of a reference book of 294 pages issued by the British Internal Combustion Engine Manufacturers' Association and reviewed elsewhere in this issue. A feature of this publication is the recognition of the future of diesel rail traction and the ability of British makers to supply the means. Launching the new project, Sir Lynden Macassey, Independent Chairman, B.I.C.E.M.A., said that the industry would face with confidence the achievement of its export target, and could even improve on it, were it not for certain restrictions which constituted a handicap to output. The order books were full, but there was still a shortage of labour and materials, with the result that the output of the industry was substantially below the practical maximum.

### Home Railway Traffic

The effect of the increases in railway rates and charges which came into operation on October 1 is shown in the latest return of traffic receipts of the four main-line railway companies and the London Passenger Transport Board which covers the four weeks to November 2. During that period total traffic receipts were £30,116,000, or £2,963,000 more than in a similar four weeks of last year. Relatively the greatest increase was shown in coal and coke receipts which at £5,521,000 were higher by £1,228,000. Merchandise revenue expanded by £1,283,000 to £9,816,000, but the increase in passenger revenue was comparatively small at £452,000 to £14,779,100. In the table below are given the details for the four weeks of this year compared with the like period a year previously, and also the aggregates for the 44 weeks of this and last year.

FOUR WEEKS ENDED NOVEMBER 2, 1947					
	1947 £000	1946 £000	+ or - £000	Per cent. + or -	
Passenger ... ..	14,779	14,327	+452	+3.2	
Merchandise ... ..	9,816	8,533	+1,283	+15.0	
Coal and coke ... ..	5,521	4,293	+1,228	+28.6	
Total ... ..	30,116	27,153	+2,963	+10.9	

AGGREGATE FOR 44 WEEKS OF THE YEAR					
	1947 £000	1946 £000	+ or - £000	Per cent. + or -	
Passenger ... ..	165,837	173,923	-8,086	-4.6	
Merchandise ... ..	80,203	89,029	-8,826	-10.0	
Coal and coke ... ..	46,393	42,293	+4,100	+9.7	
Total ... ..	292,433	305,245	-12,812	-4.2	

Total traffic receipts at £292,433,000 are now £12,812,000 less than for the similar period of last year, notwithstanding an increase of £4,100,000 in coal and coke earnings.

### Centenary of the R.C.H. Goods Managers' Conference

On another page we publish an account of a dinner on November 11 to celebrate the centenary of the R.C.H. Goods Managers' Conference. It was right that the occasion should not be allowed to pass without notice, because the Goods Managers' Conference stood high in the esteem both of the General Managers of the railways and of the trading community. At its meetings were discussed many questions of vital importance to the progress of the railway industry. Above all, problems connected with goods rates arose repeatedly. The minutes of the Conference to a great extent decided the policy adopted by the railway companies in fixing their charges, and thus had a direct bearing on the dividends paid to the stockholders. Invariably the proceedings of the Goods Managers at the R.C.H. were conducted in a statesman-like way, and as a rule matters were settled without resorting to a vote. That is not surprising when we recall that, in the days before amalgamation, most of the companies regarded the Goods Manager as their senior departmental officer and frequently called on him to deputise for the General Manager.

### Stainless-Steel Passenger Coaches

In the United States the use of stainless steel for railway passenger rolling stock has made headway recently, notwithstanding the fact that it is considerably more expensive than ordinary steel. On the other hand, a number of advantages are claimed for it, such as strength under stress, economy in maintenance, resistance to corrosion, and saving in weight. The Budd Company of Philadelphia, which has considerable experience in the design and fabrication of stainless-steel passenger vehicles for railways in the United States, recently has shipped to this country a prototype coach built to conform with British specifications. The Pressed Steel Co. Ltd., of Cowley, Oxford, which has taken delivery of this coach, plans to produce similar vehicles in this country for the home and, particularly, export markets. During the past week the prototype coach has been on view to a number of railway executives, engineers, and consulting engineers to overseas railway administrations. An illustrated description of the coach is given elsewhere in this issue. From this, it will be seen that the prototype coach, which seats 48 passengers, weighs 29 tons 5 cwt.,

as compared with 34 tons for a coach of standard construction carrying the same equipment.

### L.M.S.R. Mechanised Goods Depots

The extensive schemes of mechanisation carried out by the L.M.S.R. at the Birmingham Lawley Street and Derby St. Mary's goods depots were described in a paper read to the Railway Students' Association by Mr. T. W. Royle, Vice-President, L.M.S.R., and a Vice-President of the Association, on November 12. We summarise the paper, which was illustrated with lantern slides and films, on another page this week. Answering questions relating to the practical results achieved by mechanisation, Mr. Royle stated that Lawley Street now closes 3½ hr. earlier than before the new arrangements were introduced, and that more traffic is being dealt with in the working hours. Wagon loadings have improved, because the faster working means that vehicles do not have to be despatched partly loaded in order to be in time for their trains. At both the depots described, forwarded goods are loaded direct into the wagons from the town collection vehicles or goods shed tranship drays as the case may be. The retention of horses for hauling tranship drays to the rail wagons is the result of careful comparison with the costs of mechanical tractors for the same purpose, and the process is expedited by harness incorporating light tubular shafts, with automatic coupling.

### Changes in the G.W.R. Block Telegraph

Increasing use of the "line clear" controls, and the necessity of replacing the one-wire block instruments on the lines formerly belonging to the Welsh companies has led the G.W.R., as described in an article in this issue, to introduce a new design of block instrument to take the place of the Spagnoletti disc pattern, so long the standard. The latter was first used on the Metropolitan at its opening in 1863, but was worked in a different way from that which G.W.R. men are used to. The normal indication then was "line clear," with the white key pegged down at the box in rear, all the instruments being fitted with keys. A train was accepted by pegging down the red key at the box ahead. The District Railway had these instruments at first, but no other line in Great Britain adopted them. Spagnoletti's induced needle, however, was used later in other types as well as his own, and everywhere in signal repeaters and indicators. It was patented in 1869. The new G.W.R. instrument, which is of pleasing appearance, has the modern bold type of needle indicator and should prove popular with the signalman, which is an important point.

### G.W.R. Contract for Robert Stephenson & Hawthorns

Robert Stephenson & Hawthorns Limited has secured a contract from the Great Western Railway for the building of fifty 0-6-0 heavy shunting tank locomotives, similar to those which were described and illustrated in our July 11 issue. The contract is of more than usual interest, because of some of the circumstances which attach to it. One of the original constituent firms of the present company of locomotive builders, Robert Stephenson & Company, of Newcastle-on-Tyne, built two of the first G.W.R. locomotives, the *North Star* and the *Morning Star*. The former of these engines were delivered at Maidenhead on November 28, 1837, and worked the directors train on May 31, 1838, preparatory to the opening of the line. The association between the G.W.R. and Stephenson goes back even further, for in August, 1836, Brunel had placed an order for locomotives with Charles Tayleur, who, with Robert Stephenson, founded the Vulcan Foundry at Warrington. Incidentally, Daniel Gooch, the first Locomotive Superintendent of the G.W.R., commenced his business life with the Vulcan Foundry, and later went to Robert Stephenson & Co. at Newcastle. It seems, therefore, that the private builders which are descended from Robert Stephenson & Co., which built the early G.W.R. locomotives will also build the last ordered before the company passes into State ownership.

### A Powerful Freight Locomotive for Peru

We publish elsewhere in this issue an illustrated description of an exceptionally powerful 2-8-0 oil-burning locomotive of normal type built by the Hunslet Engine Co. Ltd. for service on

the Trujillo Railway of the Peruvian Corporation. Although the gauge is only 3 ft., the locomotive is capable of a tractive effort of 25,200 lb. at 75 per cent. of the boiler pressure. The conditions governing the general design were particularly severe; the engine's duties will include the haulage of non-braked trains weighing 400 tons over ruling grades of 1 in 50 and 100-metre (328-ft.) curves, at speeds up to 35 m.p.h. Furthermore, the axle load had to be limited to 12 tons. The design just manages to fulfil the last-named condition, the adhesive weight divided between the four coupled axles being 47.9 tons. In this eminently straightforward design, by far the most interesting feature is the disposition of the spring gear. Three-point suspension is adopted; the pony truck and two leading coupled axles are compensated as one group, a cross-beam being also included. The other two coupled axles form the other group; but in view of the small clearance between the firebox and frames, the equalisers are *above* the axleboxes, sharing an inverted laminated spring between them, whilst the outer ends of the equalisers are connected to twin helical and rubber auxiliary springs. The circular-pattern oil burner designed by the Chief Mechanical Engineer, Mr. T. Jefferson, is of special interest, its accessibility and ease of replacement being particularly commendable.

### Mirth in Adversity

Official directives to be merry come from the highest quarters. Long before Sir Stafford Cripps recommended his evening parties, Mr. Herbert Morrison had expressed a desire to see a return to Merrie England. Unfortunately, organisers of revels are likely to find that maypoles are for export only, and that the materials usually associated with entertaining guests at home are not being imported on a scale conducive to conviviality. Amusement must come from that fund of internal good cheer of which the late Chancellor of the Exchequer was a leading exponent. His song in the heart was a gift to comedians rivalled only by the comments of the Minister of Fuel & Power on the taking of baths. With the supply of material of this kind becoming, as it were, a nationalised industry, the prospects for the traditional life and soul of the party are bright. Further encouragement to be merry has come recently in a London Transport poster, which urges the value of a timely joke in blunting the discomforts of overcrowding. British humour has long been a source of bewilderment to some of our Continental neighbours. Once they recognised, at least, that it was spontaneous, but the joke manufactured to order from official prompting will introduce a new complication.

### Railway Wagon Shortage

**R**EADERS of these columns will not be unaware of the serious difficulties which are already being experienced, and which are likely to be accentuated in the near future, in meeting traders' requirements for wagons. They will not be surprised, therefore, that Sir Stafford Cripps deemed the subject to be of such importance as to warrant his calling a special press conference on Tuesday last for the purpose of emphasising the gravity of the position.

Briefly, he explained that of the stock of just over one million railway wagons, nearly 200,000 are now under and awaiting repair and, despite the priority which is being given to the construction and repair of wagons, the rate of deterioration of the existing wagon stock is still outstripping both repair and replacement. As the result, there are now about 54,000 fewer wagons in operation on the British railways than there were at this time last year, and over 80,000 less than in 1945.

On the other hand, he estimated that at least one million tons more coal will have to be conveyed by rail this winter, and over 4 million more tons of iron and steel traffic. Even allowing for the accelerated rate of repair which is being achieved, he estimated that there would be a deficiency of 100,000 wagons to deal with coal, iron and steel, and general merchandise.

His address to the conference was designed to inaugurate an intensive and sustained drive to use the existing wagon stock to greater advantage. Welcoming the evidence of a reduction in the time wagons are held under load which has been achieved this year, he stressed that many thousands of wagons

are still being held too long at private sidings, docks, and stations. He also admitted that the introduction of the five-day week in industry had added to the railway problem, because the non-availability of staff at weekends to discharge wagons had immobilised large numbers for two or three days. There was a great risk, he emphasised, of the immobilisation of the wagon stock gravely impairing the national productive effort.

He therefore appealed urgently to all works managements using railway transport to review immediately their transport arrangements, use all possible means to quicken the discharge of wagons, and to ensure that there is no avoidable detention of loaded or unloaded wagons. He asked for the greatest possible measure of co-operation of all users of rail transport in expediting wagon discharge and of railwaymen in doing their utmost to speed up the movement of goods of every kind.

He specifically appealed to railwaymen to work overtime and at weekends, when it is really necessary, to discharge wagons, and to all industrial concerns to endeavour to clear every wagon on the day it arrives. In particular, he urged firms not to use railway wagons for storage purposes, and to get volunteers or assistance from the local Labour Exchanges, to work overtime and on Saturdays or Sundays whenever necessary. Finally, he intimated that a review of the existing free periods and demurrage charges for the retention of railway wagons is now proceeding, and unless a marked reduction in the time loaded wagons are detained is speedily apparent, drastically increased penal demurrage charges will have to be imposed, and most rigorously enforced.

We understand that this press conference marks the commencement of a special all-out effort by the railway managements to secure an improvement in the discharge of wagons. Every railway district or divisional manager in the country is taking special steps to secure the co-operation of all members of the staff and their trade union representatives; all traders are being approached locally and through their associations and organisations, and representatives of Government departments are being contacted to make their contribution.

In addition, static or mobile squads of railway staffs of all grades are being formed to assist in discharging wagons in their own time, especially at weekends; railway cartage will be augmented by the employment of local hired cartage; and the assistance of Service personnel and transport units sought to accelerate discharging operations. Associated with this intensive drive will be a virile publicity campaign in the national press; the exhibition of posters and the distribution of leaflets urging all concerned to assist in the speedy turn-round of wagons.

Although originality cannot be claimed for any of these measures, it is to be hoped that, in the national interest, the combination of the various efforts will achieve a substantial reduction in the serious wagon detention at destinations, and thereby assist in securing a much more intensive use of the reduced wagon stock available. Other considerations which Sir Stafford doubtless had in mind, but did not mention, are the necessity for seeing that sufficient locomotive power is available for making the more intensive turn-round desired, and for adequate staff to repair and man the locomotives, on both of which points the present position is not reassuring.

### Defend Private Enterprise in Transport

**T**HE heading of this article is copied from the title of one by Dr. C. S. Duncan, Economist, Association of American Railroads, which appeared in the *Railway Age* of October 11. Though the U.S.A. railways were able to withstand pressure for Government control during the war, they have to be on guard against forces at work to bring about Government ownership in peacetime.

Dr. Duncan points out that the nationalisation of the British railways was represented to be a natural development. The public confidence in private management was undermined persistently by statements that the railways were inefficient and lacking in enterprise; the lines were said to be run in the interests of the stockholders and to pay low wages so that dividends might be maintained. During the war, the railways were starved for staff, materials and equipment: at the end of hostilities they were represented to be "a poor bag of assets" and the only remedy was for the State to take them over!



Dr. Duncan fears that the same process of "discredit, penalize, destroy" can be traced at work in America. He is alarmed at the inertia and complacent attitude of British traders and users of transport who thought they might realise some temporary advantage from nationalisation and did not exert themselves to oppose our Government's policy. The moral he draws is that American railways should be supported by all who believe in free private enterprise. Private managements in the States must be awakened to the danger of the present policy of drift.

Though America prides itself on being the home of free enterprise, certain socialistic tendencies, in Dr. Duncan's opinion, are spreading over there. Beware, he says, when expenditures are made out of the Government treasury on the basis of benefits rather than charges on the basis of use. He argues that the true test of usefulness of transport facilities should be the willingness of the traders to pay their full cost. This applies to highways, waterways and airways. The user payments should be sufficient to meet construction and operating costs, interest on investment, and a proper sum, in the shape of taxes, towards the support of Government. In other words, Dr. Duncan favours the policy, which *The Railway Gazette* has advocated persistently, of transport users paying an adequate toll for the provision of the facilities which they enjoy.

### Will "C" Licences Sabotage Rail and Road Co-ordination?

ONE of the ostensible reasons for the Transport Act, 1947, is the need for the co-ordination of transport, and particularly of rail and long-distance road freight services. It is therefore of interest to make some effort to assess what proportion of the country's goods road transport industry is likely to come under the control of the British Transport Commission. Current comparable statistics are lacking, and there are some discrepancies between the public statements of the Minister of Transport, but the general picture is clear. During the Report stage of the Transport Bill, the Minister said that, as the provisions for compulsorily acquiring certain long-distance road undertakings became operative, it was estimated that 34,000 commercial lorries would pass into the hands of the Commission, of which 11,000 would be taken from the railway companies. He also estimated that 100,000 commercial road lorries operating under "A" and "B" licences, and 380,000 commercial vehicles operating under "C" licences would not be transferred to the Commission. Thus by far the greater portion of the country's road haulage will not be subject to its jurisdiction. In the House of Commons on August 4 last, Mr. Barnes stated that some 23,000 road freight vehicles will be taken over under the Act, and in his speech at the Road Haulage Association luncheon to Swedish road hauliers on October 2, he said that the road haulage undertakings predominantly engaged in long-distance carriage of goods which were to be taken over by the British Transport Commission numbered about 2,500, operating some 30,000 vehicles, including about 10,000 railway-owned vehicles. The last-named figures are presumably very approximate.

The total number of mechanically-propelled goods vehicles in the country, which has been stated as high as 580,000, must be reduced by agricultural and showmen's vehicles, and by watering and cleansing vehicles of local authorities. Also, electric battery vans are limited mechanically in their radius of operation. Diesel, petrol, and steam lorries, etc., total not more than 540,000, of which about 140,000 at present are operating under "A" and "B" licences. The Transport Act does not affect 70-80 per cent. of the present membership of the Road Haulage Association. It may be recalled that the "A" licence is granted to the operator using his vehicles for hire. He receives protection from new competitors, but increases in his fleet are rarely granted, and the Road & Rail Traffic Act of 1933 virtually stabilised this class of operation—that of the ordinary goods haulier—at 93,000 vehicles, but the number dropped somewhat during the war years. The "B" licence is granted to the operator using his vehicles partly for hire and partly for his own trade or business. The licence may specify a limited radius or particular types of load to which the haulier must confine himself when working for hire. This

type of business has become stabilised at about 54,000 vehicles. The balance, comprising nearly three quarters of the total of vehicles, is operated under "C" licence, granted to the owner who uses his vehicles exclusively for his own trade or business. The "C" licence holder is excluded from acquisition under the Transport Act.

The Commission is required to acquire those road haulage undertakings which were engaged predominantly during 1946 in long-distance carriage for hire, defined as meaning a route mileage of 40 or upwards, necessitating a journey beyond a 25-mile radius from the operating base. The activities of an undertaking are, by Section 41 of the Act, to be deemed to have consisted, to a predominant extent, of ordinary long-distance carriage for hire or reward if either of the following conditions be satisfied: (a) Total weight of the goods which were the subject of ordinary long-distance carriage for hire or reward in goods vehicles of the undertaking exceeded half the total weight of all the goods carried in all the goods vehicles of the undertaking (whether under "A," "B," or "C" licences and whether carried for hire or reward or not). (b) Receipts of the undertaking for ordinary long-distance carriage for hire or reward exceed half the total value to the undertaking of the services of the vehicles, obtained by adding to the receipts from carriage for hire or reward, a sum in respect of carriage otherwise than for hire or reward, equal to the charge which could reasonably have been made if they had been carried for hire or reward.

This would seem to be sufficiently precise to have had the effect of "freezing" the industry on 1946 traffic, but the view has gained ground in some quarters that many "B" licences are turning their vehicles over to operations which make them eligible for "C" licences. We believe this to be a mare's nest. Even if the predominant character of a business were to be changed during the present year, or before acquisition, it would not affect the right of the Commission to take it over on the basis of 1946 results. Should such a change be used as grounds for compassionate treatment, the maximum achievement of the "B" licence undertaking would have been to retain all its vehicles, but at the expense of sacrificing its carriage for hire or reward without any compensation. This would be unlikely to prove advantageous if the business of carriage for reward were at all substantial, and in such event would have little effect on the co-ordination feature of the nationalisation scheme.

The existence of the "C" licensee has always been a formidable factor opposed to previous attempts to stabilise general road transport charges, or to co-ordinate them with rail charges. The railway principle of "what the traffic will bear" was largely nullified with many classes of traffic by the enormous increase in road transport after the 1914 war, and any co-ordinated rail and road rates structure will be imperilled similarly by the "C" licence.

### Movement

By John Elliot, General Manager, Southern Railway\*

RAILWAY management is not really interested in electrification as electrification. It is not interested in steam locomotion as steam locomotion, or in diesel-electric traction as diesel-electric traction; it is interested only in movement, the movement of trains over its tracks, which is the essence of a good railway. The more movement you have, the better the railway; the less movement, the poorer the railway. All the time that you have equipment standing idle or not moving, you have capital wasting time. All the time that carriages stand in the sidings or between signals there is a wastage of seats. Management, therefore, is interested only in what is the best method of shifting the people or the freight.

So far as the Southern Railway is concerned, we are 75 per cent. passenger and 25 per cent. freight, which is almost the exact reverse of the position on the L.M.S.R. and the L.N.E.R., and considerably different from the Great Western. We are,

\* From the discussion following the paper "Electric Traction on the Southern Railway" to the Institution of Electrical Engineers by Mr. C. M. Cock, Chief Electrical Engineer, Southern Railway (see our November 7 and 14 issues)



therefore, a problem on our own. We move into and out of London in 2½ hrs. in the morning and 2½ hrs. in the evening, a total of just over half a million people; and that happens to be a task the like of which does not exist anywhere else in the world. It is the greatest single mass of human bodies anywhere in the world to move in such a short space of time. We are intensely interested, therefore, in the best method of moving those people.

I can say without any hesitation whatever that up to the present we are absolutely convinced on the Southern Railway that electrification has no equal for our problem. We could not move so many people in such a short space of time without electrification. As many of you may know, we give our trains a stop of only 20 sec. at each station, and we stick to that; there is a great deal of trouble if that is exceeded. We achieve that by the old-fashioned method of compartment stock, or rather stock with plenty of doors, so that people can get in and out quickly and not be jammed up because there are not enough doors. Electrification for us has meant rapid movement, and it has meant punctuality; and that is what people like.

It is unfortunate that today is a foggy day. Even so, our record this morning on all trains, moving between 300,000 and 400,000 people, was under 9 min. late for all those trains. During the last four weeks—on the best day, October 18—the all-line record of trains arriving at the terminal stations in London of all the three divisions showed an average late arrival of only 0.3 min., while the worst day, excluding fog, was 2.4 min. The average late arrival for the same period of four weeks, including fog, mishaps, and every other kind of trouble that can happen on a railway, was just under 3 min. That is not as good as before the war, but it is a record of which we are proud, and which we are sure could not be achieved except by our electrified railway.

I can draw on my experience in the Traffic Department and say without any hesitation that electrification has enabled us to do another thing, and that is to encourage the public not to worry too much about timetables. We have tried to space our trains on what we call the "even time" system—every 15 min., every 10 min., every half-hour, every 20 min., and so on—so that people in any neighbourhood, with the green and white signs that we hang about the place directing their attention to the Southern Electric, get into the habit of going to the station without worrying about the timetable, because they know that there will be a train quite soon. That has built up a great deal of business for the Southern Railway.

Strange to say the profit on our electrified system is not made in the peak hours; in fact, I think it has been said that there is barely any margin of profit at all on the peak hours. The profit is made in the non-peak times, because, with all the equipment there, we are able at very slight cost to run short trains continually up and down our lines, and, with the combination of a frequent service and a good and well-advertised schedule of cheap tickets to take people into London for shopping, theatres and so on, and to take them from the country districts round Maidstone, Guildford, and so on, into the county towns, we have been able to build up a very considerable business and have given the public good service.

Thus we are very much wedded to our electrified system. From an operating point of view, we could not do without it; we could not possibly work the number of trains that we do without electrification. When we have bad weather, greasy rails, signal delays, and so on, the advantages of having a train with so much horsepower behind it, of having a prime mover that will get going again so quickly, are of very great value to us, particularly where track capacity is limited, as it is in the crowded London area. You know what the Southern Railway tracks look like, with the number of trains going through Clapham Junction, New Cross, Croydon, and so on. There is little or no room for us to widen our lines in this area, and it is of the utmost importance that our trains should have the maximum of mobility. We try to aid that by colour-light signalling, junction indicators, and so on. Those things taken together have helped to make possible what the author has described rightly as a great public service.

The future for us is shrouded in mystery. No doubt the sun from Berkeley Square House, and from 55, Broadway, will break through, and we shall know on January 1 the wonders which will be performed. Personally, I am confident that a

State-owned railway system can work and should work. We should aim at giving not merely as good a service as before—it is not worth while to make this great turn-over merely to give the same service. What we have to give is better service. I feel sure that if we are given the allocation—I believe that that is the jargon now—of steel and all the other necessary raw materials to enable us to carry out during the next five to ten years the further great scheme of electrification which will eliminate completely steam working from the Southern Railway east of the London-Portsmouth line, the Southern section of the State Railways will be able to cope with the developments which ought to be introduced in so closely-packed and popular a part of our island.

## The Administrative Function

By F. A. A. Menzler, B.Sc., F.I.A., M.Inst.T.

IN the sphere of organisation and administration, it is the national habit to prefer the empirical to the logical approach, to try something out and see whether it works, and, if it doesn't, to adapt it from time to time until, by a process of trial and error, a working solution is discovered. In such an intellectual climate, Mr. Pope has performed a notable service, for all students of large-scale administration, by his recent paper before the Institute of Transport, entitled "Principles of Organisation for Large Undertakings." His paper, as one would expect, is eminently a practical one, full of sage counsel, particularly in regard to the handling of the human material through which any organisation must express itself.

Mr. Pope presents a generalised scheme of organisation for any large undertaking, presumably whether public or private. Under this scheme, the high command would reside in a "Headquarters" consisting of a number of functional divisions—operating, engineering, commercial, accounting, etc.—each presided over by a specialist in the particular function. While headquarters would be functionally organised, there would be effective devolution to regions, in each of which the local functionaries would be under the immediate control of an officer who would be responsible to Headquarters as a whole. Of the group of Headquarters functionaries, it is said:—

"Their work is mainly to help the regional or area officers: to think ahead; and to co-operate with each other on the development of the organisation as a whole."

In other words, they are responsible for general oversight and for planning. It is in regard to the organisation of Headquarters that, it is suggested, the scheme needs elaboration in an important respect.

It is common ground that no undertaking can stand still, if it is to avoid decay. In a large undertaking, above all, there is a constant need to review existing practices and policies and, not infrequently, to determine an entirely new policy, for example, whether the undertaking is to embark on a new activity or discontinue an old one, or whether a long-established technique is to be abandoned and a new, perhaps revolutionary, method put in its place. Inevitably, when any large matter of this type is under review, a complex of factors—commercial, operating, engineering, financial, economic, and it may be legal—needs to be appraised and each given its due weight so as to assist ultimate authority to arrive at a judicious decision. In a very large undertaking, is a group of headquarters specialists, presided over, it must be assumed, by a Chairman, the best form of organisation for the performance of such a non-specialist function? How, in fact, will they "co-operate with each other on the development of the organisation as a whole"? Policy is not simply the sum of its specialist parts. The evolution of policy requires an intellectual process, involving a synthesis of a number of, often conflicting, factors.

Let us imagine, then, such a Headquarters to be confronted

\* Author's Note.—This article is based on observations made during the discussion of Mr. F. A. Pope's paper, "Principles of Organisation for Large Undertakings," before the Institute of Transport on November 10, 1947, and reported in *The Railway Gazette* of November 14. As, because of paper shortage, the discussion will not be reported, the hospitality of the columns of *The Railway Gazette* has been sought in order to ventilate a point of principle.

with a major problem of the type suggested above. One can picture the five or six Headquarters' functional officers concerned sitting in committee round a table with the Chairman, all armed with departmental briefs, arguing with great cogency their departmental points of view, while attempting the task of self-co-ordination. These specialists are, by definition, all of equal rank and, it may be safely assumed, are already pretty busy with their functional responsibilities. Whose is to be the specific job of doing the hard, non-specialist thinking, that prepares the way for an integrated judgment, which gives due weight to all the departmental and other factors, and in particular of preparing, if need be, that indispensable high-level document—"the first draft"—requiring something more than mere drafting facility?

There may be, but not inevitably, a towering personality, who is tacitly accepted by all the others as a sort of *primus inter pares*, but, human nature being what it is, this would be unusual. Even such an individual would have to find a not inconsiderable amount of time, and he would still be basically the head of a functional division. What would probably happen is that, because of the time taken to reconcile the different points of view, the "high-ups" would refer the matter *ad hoc* to an individual, or to a committee of individuals, at a lower tier of responsibility than themselves. But officials at a lower tier may have neither the time nor the aptitude for reflection and high level thinking, which obviously cannot be done at odd moments or round the table. In any event, their outlook would be departmental.

What may happen, of course, is that an able Chairman or Secretary is expected to do the real work—this has been stated to be the ideal form of committee—or, more commonly, a humdrum uncreative document would be produced on safety-first lines from which original thought is largely absent. The fact is, committees are rarely creative agencies. All too frequently, as in political life, their appointment is akin to administrative escapism. It is therefore suggested that the only satisfactory way of handling large problems of policy is to place on a separate division of Headquarters, divorced from day-to-day responsibilities, and under the direction of a high-ranking officer, the duty of providing a considered, non-departmental, cross-bench view in the light of all the available facts (which may often be conveniently garnered by the aid of appropriately constituted committees), and of the views of the relevant functional divisions.

The argument then is that there is, in fact, a main, non-specialist function for the performance of which provision should be made in the Headquarters organisation of any really large undertaking with nationwide activities. It is the "administrative" function in the true sense of the word, which needs for its discharge something like a "general staff," whose job it is both to review the activities of the undertaking as a whole and to be thinking ahead in the light, not only of current achievements, but of financial, economic, social and, it may be, political trends, as well as of scientific and technical advances.

What support is there for this argument for the specific recognition of what is here styled the administrative function in framing an organisation? One of the largest spheres of activity is concerned with the functions of the central government. Towards the end of World War I a report was prepared by the Machinery of Government Committee, of which Lord Haldane was Chairman. As an illustration of the way in which high level committees can on occasion be made to work, he wrote most of the report. What he said under the heading of "Formulation of Policy" is apposite in the present connection. Adequate provision, he asserted, had not been made in the past

"for the organised acquisition of facts and information, and for the systematic application of thought, as preliminary to the settlement of policy and its subsequent administration."

The principle was favoured

"of placing the business of enquiry and thinking in the hands of persons definitely charged with it, whose duty is to study the future, and work out plans and advise those responsible for policy or engaged in actual administration."

The report goes on to remark, in a striking passage, that the reason for this separation of function

"has been the proved impracticability of devoting the necessary time to thinking out organisation and preparation for

action in the mere interstices of the time required for the transaction of business."

In these few sentences, it is claimed, are enshrined the basic principles of higher administration. They are the justification for the Civil Service practice of having an Administrative Class—the so-called "Secretariat," superimposed above the purely executive departments of Ministries and concerned

"with the formation of policy, with the co-ordination and improvement of Government machinery, and with the general administration and control of the Departments of the Public Service."

Thus, it is their job, under the Permanent Secretary, to bring together the various departmental or specialist points of view; to weigh up all the factors—technical, financial, social and economic—and to produce considered documents setting forth and assessing the alternative courses that may be followed, on the basis of which Ministers can decide the line of policy to be pursued. This, needless to say, is an exacting task; it requires for its performance a high degree of intellectual capacity, knowledge of men and affairs, sagacity and horse sense. Above all, the administrative quality is not specialist in character, though, of course, specialists may possess it.

It is not fashionable in these days to see much good in the methods of Whitehall. Let us turn, therefore, to a totally different sphere where profits are the criterion of success, namely, private industry in the United States. It so happens that there is available a detailed study\* of the management policies and practices of 31 leading industrial corporations in the United States, with assets ranging from \$100 millions to \$900 millions, covering most forms of productive activity. Leaving aside the "one-man shows," one-third of the companies reviewed look to the chief executive and a part-time but formally constituted council of divisional executives, called together from their divisional duties as necessary, to handle the broad administrative functions of general management. Of this form of organisation, it is remarked that

"It is difficult for divisional executives, absorbed in their day-to-day divisional problems and responsibilities, to cast this all aside and take a sufficiently broad company-wide viewpoint to be fully effective in the field of general management during the few hours a week in which they may serve on the council."

In one-quarter of the companies, however, "general management" is achieved through a small council of general executives, devoting their full time to the broad interests of the company as a whole. They are not, as a rule, in charge of any specific phase of the company's operations, this responsibility being effectively delegated to divisional executives. This method is followed more particularly by those companies which have devoted most attention to organisation planning, and is stated to be the one towards which there is a discernible trend among the larger concerns. The advantages are stated *inter alia* to be as follows:—

"With a small group of top executives concentrating full time on the problems of general management and divorced from the problems of administrative routine of divisional management, the broad planning, direction and co-ordination so vital to the success of the business as a whole are facilitated and assured."

It is contended, therefore, that any generalised pattern of organisation for large-scale undertakings ought specifically to provide, somewhere at the summit, for the performance of this administrative function through a Headquarters division, however styled, consisting of staff free from specialist responsibilities and reporting directly to the head of the organisation. It is for argument in any particular case whether this Administrative Division should be inserted over the functional divisions at Headquarters, in accordance with the precedents cited, or in parallel with the functional divisions.

It should, perhaps, be added that the specific recognition of the administrative function offers no guarantee that the answer will be right. In the practical world, all the factors are not quantifiable and some even may not be known. There is always scope for the operation of that indispensable administrative quality—the "hunch." This is where those at the top may need to come in.

\* Top-Management Organisation and Control. Oxford University Press, 1941

## LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

### Engine Shed Roofs

159, Stamford Road, Audenshaw, Manchester.

November 13

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—There are certain features of the new L.M.S.R. engine shed roofs [see our November 7 issue.—ED., R.G.] which call for comment. The most striking is the quantity of material involved, as the 32 cantilever beams surrounding the turntable are said to weigh  $12\frac{1}{2}$  tons apiece, giving a figure of 400 tons for the radial members alone, carrying some 37 per cent. of the total roof area. It would appear that the whole system of beams will be nearer treble this amount, and I should be most interested to learn the total weights of the complete framing and of the roof covering, together with its smoke ducts. The proportion taken up by steelwork and reinforcing bars should be stated.

I consider the turntable shed can provide the most comfortable working conditions for the staff, without at the same time impeding the movement of engines, but in two respects the present examples display a retrograde tendency. First, the very marked protection from draughts secured by the use of two or three small entrances, is likely to be less effective when the centre of the shed is not roofed over. Incidentally, winds would be a more accurate description than draughts where some through sheds are concerned. Secondly, the very low roof with continuous smoke troughs does not lend itself to good general lighting, either natural or artificial, as the spread is much restricted when adjacent roads are occupied.

In a shed housing one or more turntables under a pitched roof, one usually obtains an impression of space and cleanliness that is absent in a shed with a flat or north light roof; to a large extent this seems due to the superior lighting and the better clearance of smoke from the working area. There is less obstruction with individual smoke jacks, and, provided these are suitably placed, there appears no reason for continuous troughs in most round-shed stalls.

The old three-span roof presupposes a shed of rectangular outline, the corners of which can provide useful working space under the common roof. It cannot be often that all the stalls are required to take engines of maximum length, or two equivalent engines, and accordingly some reduction in the overall width of the shed may not be disadvantageous. There is no difficulty in building roofs of the necessary span, and the real problem is one of material to withstand smoke and steam. I understand aluminium has been tried in the U.S.A., with what result I cannot say, but if satisfactory it may well prove to be competitive with the concrete roof.

Yours faithfully,

H. BELL

### Locomotive Boiler Experiments

4, Temple Fortune Court,  
London, N.W.11. October 10

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In view of recent correspondence on the Type "E" Schmidt superheater, perhaps the following details of Italian State Railways practice may be of interest. It should be mentioned, perhaps, that the heating surface figures quoted are calculated in the Continental fashion, i.e., on the fire side, which has the effect of lessening the firebox and tubes figure and inflating the superheater figure in comparison with our practice.

The Type "A" Schmidt superheater has been standard in Italy from their first superheated locomotive of 1907. Type "E" is also in use and was first applied about 1918 on rebuilding a saturated boiler; 276 of these boilers were rebuilt and applied to 0-10-0 and 2-6-2 locomotives. They gave a heating surface of 1,970 sq. ft., plus 745 sq. ft. superheater heating surface. The elements were in  $2\frac{1}{2}$ -in. dia. flues, a size adopted as standard. At the same time as the rebuilding was being carried out, new 2-6-2s were being built with Type "A" superheaters giving 2,064 sq. ft. of heating surface plus 522 sq. ft. of superheater heating surface. The grate area of these boilers was 38 sq. ft.

From 1922, 60 2-8-2s were built with boilers with a Type "A" superheater; heating surface 2,555 sq. ft. plus 722 sq. ft. superheater; grate area 46.3 sq. ft. From 1928 33 Pacifics and some of the 2-8-2s were rebuilt with the same boiler with a Type "E" superheater. The heating surface remained the same, 2,555 sq. ft., but the superheater was increased to 1,205 sq. ft. A point about this boiler was that the tubes and flues were the same diameter, i.e.,  $2\frac{1}{2}$  in. There were 189 tubes,

and 144 containing superheater elements. Some of the Pacifics in recent years have been given a superheater heating surface of 1,765 sq. ft. How this has been done is not known—presumably by increasing the number of elements.

Finally, there is a class of small mixed-traffic 2-6-0s, some of which have a Type "A" superheater giving 1,168 sq. ft. heating surface and 365 sq. ft. superheater heating surface; and others have a Type "E," for which the relevant figures are 1,395 sq. ft. and 416 sq. ft. Three classes of small tank locomotives are fitted with a Type "E" exclusively—a 2-6-0 tank, a 0-8-0 tank, and a 0-6-0 tank rack engine.

The above figures were given me during service in Italy, and I understood at the same time that the Type "E" superheater was fitted to those locomotives in which it was desired to gain an increased heating surface and production of steam without substantially increasing the axleload. It appears that in normal times the locomotives with the Type "E," though not rated to take a heavier load, were in fact given the stiffer duties to work in preference to their sister engines with the Type "A" superheater.

Yours faithfully,

P. M. BISHOP

### Extra Fuel Supplies for Tank Engines

Locomotive & General Railway Photographs,

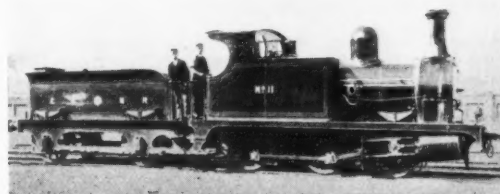
"Merope," Trevone Bay, Padstow. November 10

TO THE EDITOR OF THE RAILWAY GAZETTE

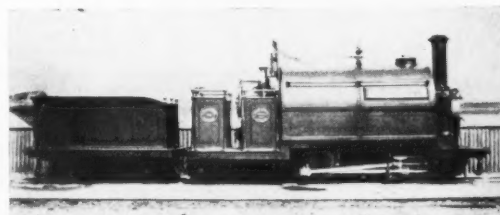
SIR,—The reference in your November 7 issue to a tank engine with tender attached, to give increased water capacity, prompts us to send three photographs of locomotives which



Caledonian tank locomotive with "engine tender"



Coal tender attached to Eastern & Midlands side tank 0-6-0



Extra coal space for Festiniog Railway "Little Giant"

have, at one time or another, been similarly provided in respect of additional coal space.

In the case of the Caledonian Railway example, it would appear that no bunker was provided on the engine, all coal being carried in the "engine tender." The illustration of the Eastern & Midlands Railway locomotive is reproduced by courtesy of the L.N.E.R.

Yours faithfully,

C. R. CLINKER  
for Locomotive & General Railway Photographs



## The Scrap Heap

### ANTICLIMAX

Jobs for the Boys under Nationalisation have one drawback, a chap in the racket tells us—once you're in, there seems to be nothing more to do, even if you wanted to. —"Timothy Shy" in the "News Chronicle."

### PUBLIC RELATIONS OFFICERS

These officials, with their secretaries, clerks, offices, were very much a luxury even in wartime when "there was money to burn." They "created" their own duties and chose for the most part to become the Press-agents of their departmental chiefs, working for these chiefs as loyally and energetically as the film-star's Press agent, with judicious boost, publicity and apologia. And today they hang round our necks like millstones. Have they made the work of the various Ministries and totalitarian public-boards comprehensible to us? Not to me. What do they cost us? An odd million or two, like the British Council. Not worth bothering about, when we deal in one hundred millions. But when it comes to cheeseparing, then our few remaining sweets of civilisation, a little petrol, a little travelling, an ounce of tobacco, a rasher of bacon—all these are legitimate retrenchments, but the P.R.O.s and the British Council are as securely entrenched as the fat men of the gambling industries, and can laugh at economies and cuts. I suppose it is quite natural. The Ministers need all the boosting and apology they can get, and the name of Britain abroad today has a deal of ground to make up after the mud-spattering it has received. But are these the most effective means of securing either object?—"Old Stager" in "The Sphere."

### "HOW THE GREAT WESTERN RETAINED ITS NAME"

The events which resulted in the G.W.R. retaining its original title at the time of the railway grouping have been recalled by Sir Felix J. C. Pole, General Manager of the G.W.R. from 1921-1929, in an article in the *Great Western Railway Magazine*. In discussing the grouping Bill with Sir Philip Nash, then one of the principal assistants at the Ministry of Transport, Sir Felix Pole expressed the opinion that whilst it was quite proper, for example, that the London & North Western, the Midland, and the Lancashire & Yorkshire companies should be regarded as co-equal constituents in their group, it was not reasonable to bracket the G.W.R. with five small companies in South Wales, such as the Taff, Rhymney,

Cambrian, and so on. He suggested that it would be much better for the G.W.R. to be the only constituent company in the Western group, leaving that company to negotiate terms with the smaller Welsh lines. Sir Philip Nash was in agreement, and Lord Churchill, Chairman of the G.W.R., on being told of the conversation, at once wrote to Sir Eric Geddes, Minister of Transport. The result was that when the Bill was introduced into Parliament the next day, the G.W.R. was shown as the only constituent company in the Western group, and all the other companies in its territory were labelled "subsidiary," i.e., to be compulsorily absorbed by the G.W.R.

Another proposal was that the larger Welsh companies should be made constituent with the G.W.R. The Minister felt he must make some concession to Welsh sentiment, and Sir Felix Pole agreed to six South Wales companies being made constituent with the G.W.R. if the Minister would refuse all other amendments affecting the Western Group. This led to the suggestion by Mr. A. S. Mills, then head of the General Manager's Parliamentary Section, that the name of the group should be the Great Western Railway, and that the G.W.R. company should not be wound up. Accordingly an amendment was drafted constituting the Great Western Railway Company the amalgamated company, and amalgamating therewith the other constituent companies in the group.

### 100 YEARS AGO

From THE RAILWAY TIMES, Nov. 20, 1847

**LONDON and NORTH-WESTERN RAILWAY.**—OPENING OF THE TRENT VALLEY RAILWAY FOR THROUGH TRAFFIC.—The public is requested to take NOTICE, that on and after 1st December, the mails and other trains, between London and Liverpool, Manchester and the North, will be transferred to the Trent Valley Railway, and that from that date the clocks at every station on the London and North-Western Railway will be set to Greenwich time.

New Time Bills for the line and its various branches may be had at any of the stations on and after the 25th day of the present month.

By order of the Board,

General Manager's Office, Euston Station,  
November 16, 1847.

Note.—Greenwich time is—

Before Birmingham clocks.....	7 minutes.
" Liverpool clocks.....	12 "
" Manchester clocks.....	10 "
" Preston clocks.....	10 "
" Chester clocks.....	12 "

### EMERGENCY REPAIR

Referring to the Scrap Heap paragraph in our issue of November 14, regarding the train run on a shoe string, Mr. H. Charnley recalls an incident in which he was concerned some years ago. Our correspondent, who is Northern Repre-

sentative of the Traction Department of Crompton Parkinson Limited, writes as follows:—

"I was travelling on the up 'Flying Scotsman,' when somewhere near Essendine the train came to a standstill. After a few minutes I opened a window to look out, and found the engine driver walking alongside the train. He was a friendly-looking man, so I asked him politely what was the matter, and he explained that the brakes would not pull off easily.

"Again presuming on his friendliness, I mentioned that I had spent my life looking for troubles on trains, and could I help? He replied that I could. So we walked along together; presently either he or I (I am not sure which now) espied a hole in the train pipe from which an elbow had broken off. This connection went, if I remember right, to the brake cylinder of that coach. After some palaver I asked the restaurant car conductor to let us have an assortment of corks. One of these was a snug fit in the hole, so we drove it in carefully. After releasing the brakes on this coach, the friendly driver went back to his engine and I climbed into my coach.

"At Kings Cross, which we reached not very late, the driver grinned at me and gave me a cheery wave of the hand, which pleased me immensely."

The brass whistle and name-plate from the engine *The Lancashire Witch*, which was built by George Stephenson in the 1820s and ran between Bolton and Leigh, were sold for £8 at a sale of the contents of Hulton Hall, near Bolton, recently.

### G.W.R. SAFETY BOOK IN POLISH

Every member of the G.W.R. permanent way staff is issued with a copy of a booklet called "Look Out." This booklet shows the precautions which should be taken while working on the track—for their own safety. The principal features of the booklet now have been translated into Polish and distributed to the 160 Poles working on the permanent way in different parts of the system.

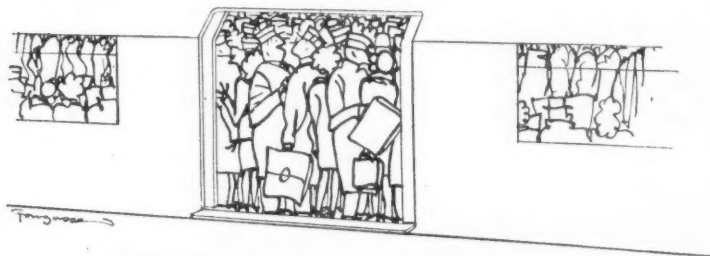
### PLEADED FOR BASIC

The Automobile Association have analysed 51,100 of the names on their near-two-million-signature petition against the abolition of basic petrol. They find that 31,520 were manual workers, 15,514 were "professional workers." The balance, 3,000-odd, omitted their occupation from the forms.

Two lighthouse-keepers were among the 51,000. Miners totalled 328; railway workers, 242; "politicians," 8; "drones," 2; "spivs," 20; unemployed, 6; "professional hecklers," 4; jockeys, 2; shorthand typists, 480; masseurs, 8; bailiffs, 2; local government officers, 268; Women's Land Army, 10.—From the "Evening Standard."

### OUT OF GAUGE

The loading gauge limitations that prevented the "Train of To-morrow" and the "Freedom Train" from entering the centre of New York City on their recent exhibition tours, has raised misgivings in the *New Yorker* regarding forthcoming "blister" observation cars which are being planned with similar dimensions. The paper writes:—"The fancy new blister cars being planned by Western railroads turn out to approximate the height of the 'Train of To-morrow,' they won't be able to operate out of our local stations unless you want to count the terminals across the river in New Jersey, where, we're told, they would be all right..."



"Of course in nineteen forty we stood alone . . ."

[Reproduced by permission of the proprietors of "Punch"]

# OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

## CANADA

### Report on Dugald Collision

In a report blaming violation of operating rules for the collision at Dugald, Manitoba, on September 1, in which 31 lives were lost, the Board of Transport Commissioners urges the fastest possible modernisation of passenger equipment, and more stringent regulations for the use of wooden coaches.

The board's findings on the crash, and the subsequent fire that swept through the wooden coaches on the westbound Minaki special train, lay the blame for the collision on the crew of the special, which crashed into a train standing at Dugald Station, on the C.N.R. main line near Winnipeg.

The board found also that an operating official on the train was responsible for failing to detect the rule violation that sent the special down the main line instead of into a siding to bypass the standing eastbound train. A further rule violation by the special, the board found, was that it was travelling at least at 30 m.p.h. at the time of the collision, when it should have been prepared to stop.

Noting that wooden passenger coaches had been marshalled between steel stock on the special train, the board declared it would issue an order eliminating the practice. In future, all wooden coaches will be placed at the rear of trains.

The recommendations as to modernising equipment are:—

1.—That the C.N.R. and all other railways replace wooden cars with steel units "as speedily as possible." The report observed that the C.N.R. was making "reasonable progress" in this direction.

2.—That electricity be substituted for gas lighting as fast as possible in coaches adaptable for conversion. The board would take action periodically to see that this direction was complied with.

The commissioners, who conducted their investigation at Winnipeg late in September, declared they had been unable to determine why the operating rules had been broken, since both the driver and fireman of the special had been killed.

### Competitive Rate Increase Refused

Two members of the Board of Transport Commissioners have written minority judgments dissenting with the board's majority decision rejecting an application by the railways to raise their competitive freight rates by 30 per cent. immediately. The judgments showed that four commissioners voted for rejection, as had been announced earlier, and two held that the railways should be allowed to raise the competitive rates.

Hearings into the competitive rates, which are associated with the board's long inquiry into the railway application for a general rate increase, developed when the wartime Prices & Trade Board lifted its control on railway charges last month. This move was followed immediately by a railway proposal to raise the competitive rates, which are low charges designed to meet competition.

The majority decision took the view that the main application embraced the competitive rates, and it was "highly desirable to be considered together by the board until final disposition of the matter." Therefore, it ordered suspension of the

proposed new rates of the railways until further order. The dissenting commissioners declared in their minority judgments that in many cases the competition for which the lowered rates were established had either disappeared or been lessened. Such rates therefore were giving undue preference to those who were using them, and were throwing an undue burden on other traffic.

## UNITED STATES

### Fewer Crossing Accidents

Fatalities resulting from level crossing accidents in the first six months of 1947 totalled 919, a decrease of 17 compared with the corresponding period in 1946. In the first half of this year, 2,088 persons were injured in such accidents, compared with 2,165 in the same period of last year.

There were 87 fatalities resulting from such accidents in the month of June alone, a decrease of 26 compared with the corresponding month in 1946. Persons injured totalled 235 in June, 1947, compared with 248 in the same month of 1946.

## ARGENTINA

### Transfer of French-Owned Railways

As recorded in *The Railway Gazette* of October 31, the French-owned railways in Argentina were incorporated recently by Decree into the State Railways system, as a result of the agreement of sale reached in 1946. The actual transfer took place on November 1, when brief ceremonies took place at the headquarters of each railway. Colonel Alfredo J. Job, General Manager of the Argentine State Railways, took possession in Buenos Aires of the General Railway Company of the Province of Buenos Aires; Engineer Horacio Romero, Chief of Operation (Technical), took over the Provincial Railway of Santa Fé, in Santa Fé; and Engineer Nicolás O. Ferramola, Chief of Operation (Commercial), took over the Rosario to Puerto Belgrano Railway, in Rosario.

### New Argentina-Bolivia Railway

The Argentine Government has issued a Decree authorising the opening, through the Central Bank, of a credit for \$3,962,270 U.S., equivalent to ps.16,245,307, in favour of the Bethlehem Steel Corporation. The funds thus made available will be used to finance the purchase of 40,000 tons of rails and accessories destined for the construction of the new railway from Yacuiba, on the Argentina-Bolivia frontier, to Santa Cruz de la Sierra and Sucre (Bolivia), which has been undertaken by the Argentine State Railways as a result of an agreement reached between the Argentine and Bolivian Governments (see also *The Railway Gazette* of August 2, 1946).

## INDIA & PAKISTAN

### Volunteers for East Punjab

Four hundred trained railwaymen from Mysore have expressed their readiness to man trains in the disturbed areas of the Eastern Punjab Railway. These include 43 drivers, 60 firemen, and 76 guards, the categories of which there is a serious shortage on this frontier railway.

Similarly, the G.I.P.R. Railwaymen's Union has passed a resolution offering to the Government of India the services of some of its members, "who will be ready

to risk their lives in the discharge of their duties." The South Indian Railway Labour Union also has passed a resolution assuring Pandit Nehru, the Prime Minister, that its members are fully prepared to help the India Government in "this moment of national crisis."

### Suspension of Refugee Trains

After a phase of intensive movement of refugees by rail between India and Pakistan, the running of evacuee trains was stopped from September 23, owing to these trains not being allowed a safe passage in the East and West Punjab. Several refugee trains were halted on the way, and moved on after intervals of two to three days as the movement of refugees across the Indo-Pakistan border was made safe.

### Attacks on Trains

There were recurrent attacks on Muslim and non-Muslim refugee trains during their journeys on the Eastern Punjab Railway and the North Western Railway respectively. An East Punjab Government statement said that on September 22 a non-Muslim refugee train that arrived at Amritsar from Pind Dadan Khan, in West Punjab, was attacked by mobs at Saranpur and Harbanspura on the way. Of the 3,500 persons who boarded the train, only about 2,000 reached Amritsar; many of these were seriously injured or disabled. The rest, concluded the statement, were killed by the mobs, and about 150 women were abducted.

A Press note issued by the Pakistan authorities from Lahore described how a refugee train which left Delhi on the morning of September 21, was assaulted at two places on the way. It was attacked first at Beas, but the attack was beaten off by the British officer commanding the escort.

The train was attacked again at Amritsar on September 22. The British officer opened fire again, and was reported by the survivors to have been shot.

### Strengthened Security Measures

The halt in the running of refugee trains gave the military authorities, entrusted with the task of guarding the railways, an opportunity to strengthen measures for protecting refugees. In order to ensure the safe passage of trains through Amritsar, curfew was imposed on both sides of the railway track from September 23. This enabled a westbound Muslim refugee train to pass safely through that station. While enforcing the curfew, a British officer leading a patrol was attacked by an armed gang and seriously wounded.

## SOUTH AFRICA

### Overseas Purchasing Policy

Mr. W. Marshall Clark, General Manager of the South African Railways & Harbours, made a statement on railway equipment orders to a Press conference on November 3. He had just returned from a tour of Great Britain, Holland, Belgium, France, Switzerland, and Italy. In Switzerland he attended the first post-war International Railway Congress.

Mr. Marshall Clark said that in Great Britain he had received assurances that supplies which were urgently needed would be delivered as soon as possible. The British industrialist had great difficulties, not only with raw materials, but also with the delivery of his products. It was almost impossible to give a definite delivery date under present circumstances;

future transactions by the administration would, as usual, be made on a world-wide tender basis, with preference for the lowest quotation.

British prices still were considerably lower than American, but in future contracts it was likely that a guaranteed date of delivery would be taken into consideration. The South African Railways had about £2,500,000 worth of rolling stock on order in Britain, and about the same value in other equipment. The General Manager said that there would be no switching of orders already given to British firms for rolling stock and other railway equipment, in spite of lengthy delays in delivery.

#### Cape Eastern Main Line

Part of another section of the new Cape Eastern main line, between Waku and Tylden, has been opened to traffic. This section forms a portion of the regrading and deviation work between Amabele and Imvani, which is being carried out at an estimated cost of £2,700,000. The section of line now opened is five miles long.

The track consists of new 96-lb. rails, which have been welded into 60-ft. lengths and laid on new steel sleepers. It is hoped

to open the remaining portion of the Waku-Tylden section in August, and work is proceeding steadily on other sections.

It is hoped also to open about 25 miles of new track from Dohne to Gaika, including new stations at Toise River and Surbiton, this month or early in December, and to complete the whole of the section south of Queenstown by about the middle of 1948.

## SWEDEN

### Resumption of Touring Trains

This year the Swedish State Railways restored two of the summer touring trains which were a feature of their pre-war activities. One was run on the Underskaer—Storlien route; and the other operated between Luleå and Narvik.

Passengers travel by ordinary services to join the trains at their starting point, and thereafter are accommodated in the touring trains for seven days. The rolling stock consists of sleeping cars, restaurant and kitchen cars, a saloon carriage with radio and cinema equipment, and a coach for the train staff. Guides accompany the trains, and passengers are able to make

excursions into the mountains from certain stations. The first of these trains went into service in 1925, and at that time was reserved for students. Since 1927 the facilities have been made generally available, and the number using the trains rose from 300 in 1925, to 1,440 in 1939. A reduced fare is charged for the journey to and from the passenger's home station.

## ITALY

### Radio Test with Moving Trains

Radio telephone tests from a moving train were carried out on the 12½-mile Rome-Tivoli section of the Rome-Pescara main line on October 29, and contact was maintained successfully with a fixed station installed in the Ministry of Transport building in Rome. Frequency-modulated and phase-modulated transmission was used, and no interference was experienced from electric installations alongside the line. Prof. Corbellini, the Italian Minister of Transport, who was on board the train, later stated at a Press conference that this was the first time that railway radio communication with frequency-modulated waves had been carried out on a European system.

## Publications Received

**Line of Communication: Railway to Victory in the East.** By John Thomas. London: The Locomotive Publishing Co. Ltd., 88, Horseferry Road, S.W.1. 8½ in. × 5½ in. 86 pp. Illustrated. Paper covers. Price 6s.—This little work summarises the many episodes in and features of what has justly been described as an epic in the history of railway transport. Much the same ground has been covered from time to time in our columns, but it is valuable to anyone interested in Indian or in wartime railway matters to have a compact and well-illustrated volume descriptive at once of so many aspects of the subject. It contains a vast array of personal experiences, many of which will be appreciated by those knowing the local conditions in eastern India, as it then was. The last four chapters are not, strictly, directly concerned with the "line of communications," as they describe the 1942 disturbances throughout India, the Damodar floods, Kanchrapara's contribution to the war effort, and the 2-ft. gauge Darjeeling-Himalayan hill railway, respectively. They are, however, of considerable interest and the whole work is very readable. Most of the illustrations are excellent.

**British Diesel Engine Catalogue.** Printed for the British Internal Combustion Engine Manufacturers' Association by Temple Press Limited, Bowling Green Lane, London, E.C.1. 9½ in. × 13 in. 294 pp. 560 illustrations and 175 tables. Art paper. Cloth covers. Price £2 4s. by post for overseas countries only.—This is a comprehensive reference book of 33 makes of British diesel engines, intended primarily for the assistance of overseas buyers, and designed to demonstrate what a group of British diesel engine manufacturers can offer for industrial, railway traction, and marine purposes. Matter usually inserted in catalogues in the form of advertisements has been excluded. In the introductory section, there is outlined the basis of British practice in this particular field, followed by information on engine and fuel standards adhered to by British makers and an explanation of diesel en-

gine technical terms, rating tables, accessories, etc. In the main portion are given descriptive and technical particulars of 2,000 diesel engines for a variety of purposes. Full recognition is given to the future of diesel rail traction and to the ability of British firms to supply the means. For railway traction, there are described 29 basically different ranges, comprising 132 engines of up to 2,250 b.h.p., of which 45 are of more than 400 b.h.p., and, therefore, of the character of main-line engines. The book recognises, also, the claims of narrow-gauge lines, and caters for the increasing use of diesels by public works contractors and for factory and plantation use. Examples are included of flameproof locomotives for mines which demonstrate the advanced degree of development of British diesels for this work.

**British Iron & Steel Federation Statistical Year Book, Tariff Supplement.** Published by the British Iron & Steel Federation, Steel House, Tothill Street, Westminster, S.W.1. Price 5s.—The B.I.S.F. has issued a Tariff Supplement to its Statistical Year Book for 1946. It is stated in the introductory note that the main purpose of the International Conference on Trade & Employment having been to consider possible means of reducing tariffs and preferences, it has been thought desirable to bring together in one volume the duties on iron and steel products, extracted from the tariff schedules of the sixteen countries taking part in the conference (together with those of certain other countries), on the same lines as in the Tariff Section of the Federation's pre-war Statistical Year Book. The rates of duty have been revised up to June 30, 1947, and are for the most part those actually in force at that date.

**Fibre Building Boards.** A technical work published by the Building Boards Joint Committee, Melbourne House, Aldwych, London, W.C.2. 8½ in. × 5½ in., paper covers. 90 pp., including illustrations and six appendices. Price 5s. post free.—This sets forth the results of the latest research based on memoranda prepared by the Technical Committee of the Joint Com-

mittee for the Post-War Directorate of the Ministry of Works. The technical aspects of the use of fibre building boards, produced by a common effort of all firms in the industry that have pooled their knowledge and experience, are explained for the benefit of the trade and community. There are three main classes of fibre building boards: (1) insulating boards, (2) hardboards, and (3) wallboards, to each of which a chapter is devoted. Thermal insulation and sound control, the construction of walls, floors, and roofs, methods of fixing, joint treatment, and surface finishes are among the subjects discussed with the aid of over 50 drawings and as many photographs.

New information, published for the first time in this volume, is given on results of research into the fire resistance of intermediate timber floors having insulating board ceilings; and into the rate of flame spread on the surface of various types of board.

**Coventry Thread Grinders.**—Owing to the simplicity and speed of the operation, thread grinding now is used universally for producing threads on component parts where accuracy is of first importance, and as a result the manufacture of components with ground threads is accepted as the most advanced practice. An illustrated brochure published by the Coventry Gauge & Tool Co. Ltd. describes how, with the advent of these machines, it was possible to harden the workpiece before grinding the threads, thus eliminating the effects of distortion and resulting in the production of cutting tools of greater accuracy at a higher rate. Two types of machines, resulting from 30 years of experience, are described, the first, Type 39, being capable of grinding a thread 19 in. long at one setting, and the second, Type 46, for a thread 41 in. in length. Both are universal and capable of producing single or multi-start threads, either parallel or taper, to any desired form with any pitch to 60 threads per in. At the other end of the scale the machines will grind a lead of 12 in. per rev., while automatic relief grinding for taps, hobs, etc., is a feature of both. Internal threads can be produced by employing a special attachment.



## A Powerful Freight Locomotive for Peru

*High tractive power obtained despite a severely restricted axleload on a bar-framed narrow-gauge engine*

ONE of the most powerful non-articulated locomotives to run on a 3 ft. gauge railway has been shipped recently by the Hunslet Engine Co. Ltd. from Liverpool to Puerto Chicama for service on the Trujillo Railway of the Peruvian Corporation. This 2-8-0 engine is intended for the heaviest freight traffic on that system, and its duties will include the haulage of 400-ton unbraked trains of wagons over ruling grades of 1 in 50 and 100 m. (328 ft.) curves, and at speeds up to 35 m.p.h. under suitable conditions.

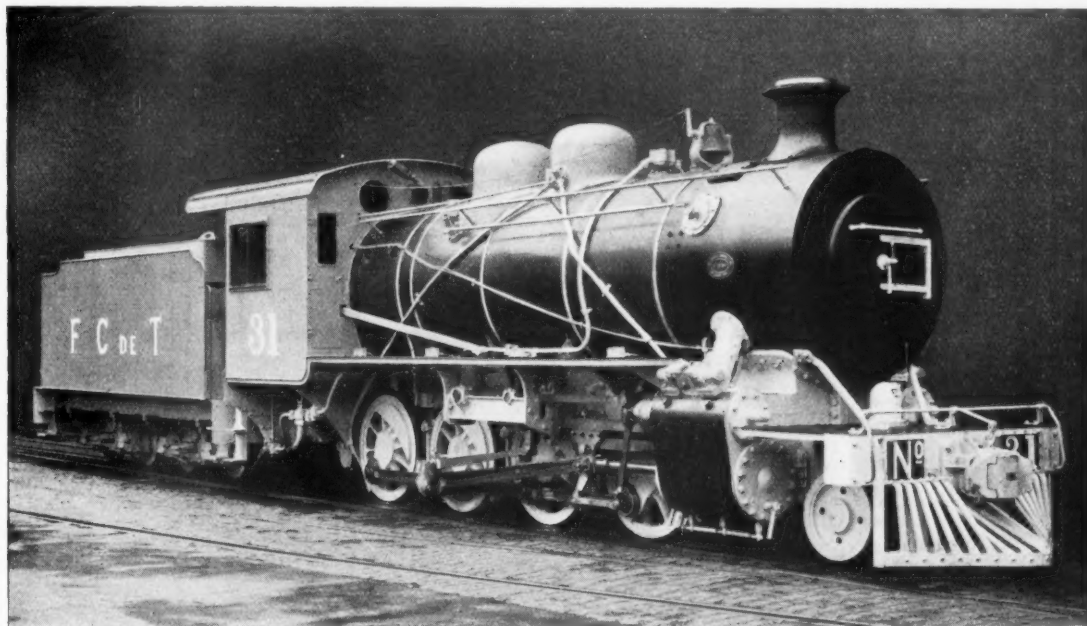
Built to the requirements of Mr. T. Jefferson, Chief Mechanical Engineer, Peruvian Corporation Railways, and to the specification and inspection of Messrs. Livesey & Henderson, this oil-burning locomotive has 47.9 tons of adhesion when fully loaded, in spite of a maximum axleload limited strictly to 12 tons; that is, the design has enabled a very even distribution of weight right up to the top

limit to be gained. Moreover, the adhesion weight is 91½ per cent. of the engine weight. Tractive effort at 75 per cent. of the boiler pressure amounts to 25,200 lb., giving a factor of adhesion of 4.25 to 1. Full general dimensions of engine and tender are included in the accompanying general arrangement drawing and diagram.

In accordance with Peruvian Corporation practice generally, the base of the whole locomotive is a substantial bar-frame structure made up of two side members 4 in. thick, machined from slabs of 26/30-ton mild steel, and strongly braced by cast-steel cross stretchers and drag boxes. The front buffer-beam is cast iron with an outer facing plate of 1½-in. steel; at the back end the intermediate buffer-beam is a ½-in. steel plate. The cross section of the frame above the axleboxes is 5½ in. deep by 4 in. wide, and at the bottom substantial horn-stays are secured by four 1 in. driven bolts.

Three-point suspension has been adopted for the springing system. At the front the overhung laminated springs of the two leading pairs of coupled wheels are connected on each side by a compensating beam, and a cross-beam and further equaliser connect this system with the leading truck. At the back, considerations of space in relation to the firebox led to the use of equalisers above the boxes of the driving and trailing coupled springs, with a laminated spring between, and with twin helical and rubber auxiliaries at the outer ends of the equalisers; this system on each side is independent. Leading and intermediate coupled springs are each composed of 16 plates ¾ in. by 3½ in., with a short top packing plate, and 28 in. between hangers. The trailing spring on each side is of 13 plates ¾ in. by 4 in., and the helical groups are each of two six-coil 3 in. dia. springs with compound rubber springs above. All wearing points throughout the spring system are case-hardened.

Cast-steel centres are used for all coupled wheels and have cast-in balance weights with lead fillings. The driving and intermediate coupled wheels have thinned tyres. Cast steel also is the



General view of the 2-8-0 Hunslet built locomotive for Peru

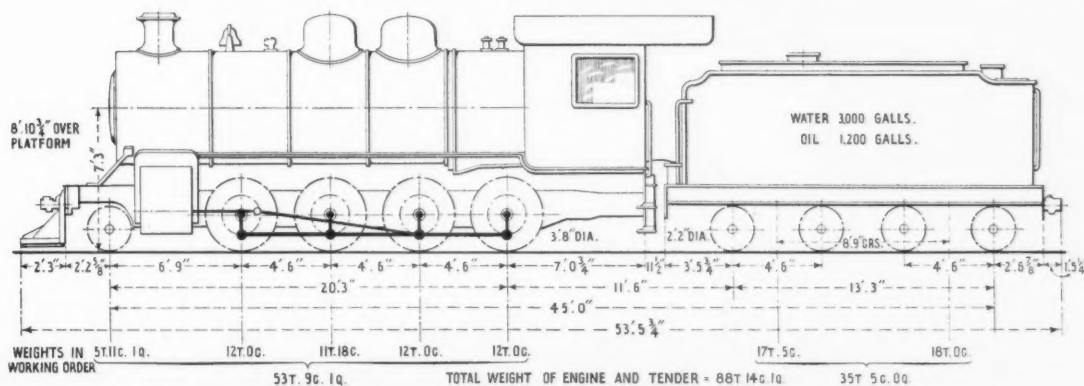


Diagram showing principal dimensions and weights of the locomotive

material of the axleboxes, which have Stone's bronze bearings and whitemetal lining for the 7½ in. dia. by 8 in. long journals. Bronze hub liners are fitted to the outside face. Adjustable wedges are provided to the rear of each box, and these and the thrust faces of the boxes are case-hardened.

The leading pony-truck has swing-link side control with twin-eye links, and transverse laminated bearing springs in two groups of four. A flat-face pivot is used, and the male portion is housed in the front drag casting. A maximum side movement of 2½ in. each way is provided, and the effective radial arm length is 4 ft. 9 in. The radial arm is a steel casting, as are the truck frame and the axleboxes; the boxes have Stone's bronze bearings with whitemetal lining throughout running on 5 in. dia. by 8 in. journals.

Each cylinder is cast complete with half the smokebox saddle, the two halves being connected by 1-in. fitted bolts to each other and to the frame. At the point of cylinder attachment the frames have a substantial horizontal stay. Inside-admission 9 in. dia. piston valves with four narrow rings per head are actuated by Walschärts motion giving a maximum travel of 4½ in. in full forward gear, corresponding to 80 per cent. cut off. Port width is 1½ in., and the maximum area open to steam and exhaust is 27 sq. in. The valve spindles have gunmetal bushes and glands, but the piston-rod packing is of the Britimp metallic type. By-pass and pressure relief valves and asbestos-mattress lagging are fitted to the cylinders.

Screw reverse is fitted and requires 10 turns from full forward to full backward gear. The radius rod of the motion is projected backwards past the link to take the reversing arm, and this feature, along with the adequate lengths of the eccentric rod, 4 ft. 11 in., and radius rod, 4 ft. 10½ in., combine to produce a most favourable set of valve events, with extremely small differences between front and back ports and between forward and backward gears, and small slip of the die-block in the link. Other valve gear particulars are: 1 in. steam lap; ½ in. lead; no exhaust lap; slip of die in full forward gear ⅛ in.

The cylinders are located horizontally with the centre line 2 in. above the axle centres in new condition, and the drive is transmitted through forged-steel cross-heads of Laird type and 8 ft. 2 in. connect-

ing rods to the third pair of coupled wheels. Adjustment is provided for both big-end and small-end brasses, and both ends of the rod are of the solid type. Stone's bronze with whitemetal inserts is the material of the big-end brasses and also of the non-adjustable coupling-rod bushes, but the gudgeon-pin brass is without whitemetal. Class C steel is used for connecting and coupling rods, both of which are of I-section, the connecting rod tapering from 4½ in. to 5½ in. in depth, with ⅞ in. by 2½ in. flanges and a ⅜-in. web.

Quick steaming and high evaporative capacity are obtained from a boiler with a two-ring barrel of 5 ft. ½ in. minimum internal diameter and a distance between tubeplates of 12 ft. 4 in. The round-topped firebox is shallow but long, and well suited to oil burning. It has a volume of 102 cu. ft. above the foundation ring level and a flame pan of firebrick-lined steel plate below that. There is one circular-pattern oil burner, made by Hunslet, to the design evolved by Mr. T. Jefferson, and located at the front of the flame pan, which takes the place of the ashpans. This burner is carried in an accessible mounting, so arranged that the holding clip can be swung back and the burner withdrawn for cleaning in four or five minutes, and without going into the hot firebox. The whole oil-burning layout is simple, efficient and suitable for anything from light oil to heavy "Bunker C" oil, the latter being generally used in Peru.

Within the barrel are 129 Aquadiox steel tubes 2 in. outside dia. and 8 s.w.g. thick, and 21 flues 5½ in. outside dia. and 8 s.w.g. thick of the same material. The firebox is steel with a ⅜ in. wrapper, ½ in. tubeplate, and ⅝ in. back plate, and a water space of 3 in. at the foundation ring. Firebox side stays are 1½ in. dia., of Longstrand steel, with the Flannery type of flexible stay in the breaking zone at the top, back, and front. Roof stays are of iron and the through longitudinal stays of steel.

The superheater is of the Superheater Co. Ltd. multi-valve type incorporating the regulator and taking steam through an internal steam pipe of 5 in. inside dia. leading from an open end in the top of the dome. The superheater elements are of normal type 1½ in. outside dia. and 9 w.g. thick.

Fittings on the boiler include the Ross 2½ in. safety valves; two Gresham &

Craven reversible pattern 8 mm. injectors delivering through top feed on the front ring; an Everlasting blow-off cock; a Klinger Reflex water-gauge glass and cock; a chime whistle with a horizontal lead from the steam turret; steam distribution box to carry the cocks for the oil-burning apparatus; a pyrometer; and Limpet asbestos mattresses as lagging. The smokebox is of large capacity and contains the 5 in. outside dia. steam pipes, superheater header, and the blast pipe with its 4½ in. dia. nozzle set 4½ in. below boiler centre line. Above the boiler is a sandbox with gravity leads to front and back coupled wheels; and also a warning bell operated by a cord from the cab.

A steam brake system is incorporated and a single 12 in. cylinder under the cab actuates blocks on all coupled wheels. The brake rigging system in which the centre pull rod throughout operates bottom cross-beams is used, and the total leverage is only 3.3 to 1, giving a retarding force of 30 tons, or 65 per cent. of the braked weight when full boiler pressure is available. Ample adjustment is provided by the usual right-hand and left-hand threads in the first pull rod. The brake cross-shaft and its bearings are simple and accessible in the extreme.

A Wakefield A.C.-type five-feed sight-feed lubricator of six pints' capacity, with separate condenser, is fitted in the cab, and is arranged with two feeds to the cylinder barrels, two feeds to the steam chests, and one feed to the steam brake cylinder.

The tender itself is of normal construction with an underframe of four 10 in. by 3½ in. channels and rectangular water and fuel oil tanks. The bogies have frames of the diamond bar type with flat centre bearings and side bearers. The bogie bolster is of the non-swing pattern, supported at each side by two elliptical laminated springs. Plain axlebox bearings are used on journals 4 in. dia. by 9 in. long. A smaller brake cylinder on the tender underframe applies blocks on all the tender bogie wheels, and the rigging operates in conjunction with a hand brake. A braking effort of 17 tons can be applied from the steam cylinder and about 8 tons from the hand screw. At the back of the tender and in front of the locomotive Visco Alliance centre couplers are fitted; that on the tender pulls on a volute steel spring, but the one on the locomotive is of the pocket type, without spring.

**COAL AND FIREWOOD BY G.W.R.**—Since August the G.W.R. has conveyed 50,000 tons of lignite (brown coal) from Heathfield, Devon, to places on the South and East Coast, Birmingham, and North Wales. In October, 600 tons of firewood logs from stations in the Taunton and Tiverton areas were despatched to the Birmingham, Manchester, Northampton, Bury, and Rochdale districts.

**L.M.S.R. BRIDGE REBUILDING CONTRACT.**—A contract has been placed by the L.M.S.R. with Fletcher (Contractors) Limited, Mansfield, Notts., for widening and strengthening the bridge carrying the London to Carlisle trunk road over the Trent to Weston line at Castle Donington. The work, which will cost £18,000, involves the widening of the bridge from 35 ft. to 100 ft., allowing for dual carriageways, each of two lanes, with footpaths and cycle tracks. The existing bridge, which is a three-span brick arch structure, will be strengthened with reinforced concrete, and the new portion constructed

with 90 tons of steel girders encased in concrete forming a slab deck. Abutments and piers will be built of mass concrete faced with brickwork. The existing bridge will be kept open to traffic until the new section on the south side is completed. The work, which will commence at an early date, is expected to take no more than 39 weeks to complete.

**VACUUM CLEANERS FOR CARRIAGE DEPOTS.**—Plugs and points for connecting vacuum cleaners used in cleaning carriage stock are to be provided by the G.W.R. at Birkenhead, Neyland, Pontypridd, Westbury and Weymouth. Similar facilities are installed already at Reading, Swindon, Exeter, Plymouth, Cardiff, Swansea, Birmingham, Worcester, and 28 other depots.

**INDUSTRIAL RESEARCH AND DEVELOPMENT COMPANY.**—A private company known as the Amalgamated Research & Development Co. Ltd., with registered offices at 32, Duke Street, London, S.W.1, has been formed to develop, through its own workers or from suggestions from outside,

products which may involve the development of new processes and new designs, and to provide a link between industry and inventors through which the translation of ideas may be accelerated to the state of production. Initially, this company has been set up with the backing of Associated British Engineering Limited; Dawney, Day & Co. Ltd.; and General Mining Industries Limited, South Africa. At present the engineering and research sections are at the works at Staines recently acquired from Lagonda Limited.

**G.W.R. NATIONAL SAVINGS GROUPS.**—Nearly 800 National Savings groups have now been formed on the G.W.R. system. At Swindon, where there is the biggest concentration of employees, 55 per cent. of the 1947 annual target figure of £34,000 was reached in the first six months of this year. At Plymouth, where the monthly target was £51 10s., £1,194 was saved in a single month. Every effort is being made to increase National Savings to assist national recovery.

## New Block Telegraph Instrument for G.W.R.

*Development of Spagnoletti type provides easier manipulation and greater clarity of indications*

FOR many years the Great Western Railway has been distinctive in the form of block telegraph instrument used on its system. The other lines of the group railways have adhered generally to the needle type of indicator, following the lines of the single-needle telegraph worked by drop-handle with a pegging device or, alternatively, a commutator handle.

The instrument used on the G.W.R. is the Spagnoletti disc operated by taper keys, which, according to MacDermott's "History of the Great Western Railway" was used first on the Metropolitan Railway at its opening in January, 1863, and its first appearance on the G.W.R. appears to have been on the single line between Bristol and New Passage (for the ferry crossing to South Wales in use prior to the opening of the Severn Tunnel) in July, 1864. In May, 1865, Spagnoletti disc block instruments were introduced for signalling up trains only between Goring and Pangbourne.

C. E. Spagnoletti, the inventor of the instrument, who was a former employee of the Electric Telegraph Company, was appointed Telegraph Superintendent to the Great Western Railway in 1855 at a salary of £100 a year.

### Characteristics of Former Instrument

The disc instrument consists, as its main feature, of a swinging flag behind the small rectangular aperture, and discloses the words "Line Clear" or "Train on Line," or, for the normal indication, one-half of each of the foregoing indications.

The claim made by Spagnoletti for the advantage of the instrument, was that it could show only one indication at a time, as compared with the single-needle type of instrument, which showed two indications, to either of which the needle could point as required. In the original form the taper keys were held down by a peg which could be pushed through a slide at either side to cover the depressed key so as to hold it down. At a later stage this arrangement was changed to a wire slide operating on either key as required, and this facilitated operation. Although an actual peg is not now used, the term has survived, and the transmitting instrument is still referred to commonly as a "pegging disc."

The Great Western Railway recently authorised the completion of the control of block section signals by the "Line Clear" indication of the block instrument, as applying to the whole of the system. In South Wales in particular, and on some other of the lines amalgamated with the G.W.R. under the grouping of railways in 1922, the block instruments were not of the standard 3-position, 3-wire type, some being 2-position 1-wire, and others 3-position 1-wire, which, therefore, did not lend themselves to the control of signals in the standard manner. A considerable number of new instruments was required, and this afforded an opportunity of reviewing the question of the existing type of instrument.

Since the Spagnoletti instrument was designed more than 80 years ago, various other demands in connection with interlocking, track-circuiting, and so on, have necessitated increased contact equipment, and as this could not readily be added to the taper keys, an addition to the instrument, bearing multiple contacts, has been employed for some years, the result being that an additional section has had to be

built on to the back of the original instrument. This arrangement is illustrated on page 586, with a front view of the Spagnoletti disc block instrument as combined for up and down lines. Incidentally, it will be noticed that the instrument is fitted with "reminder flaps" which is rather special to the G.W.R. That over the "Line Clear" key, when operated, protects the key from being depressed, and applies to the clearing point being fouled, etc. That over the "Train on Line" key, when operated, retains the key in the depressed condition, and applies to trains stopped at signals, etc.

New instruments which depart from tradition have been introduced recently for trial purposes between Scours Lane, Tilehurst, and Pangbourne on the up and down main lines, and we reproduce illustrations of the front and back of the instrument, the back view showing the instrument with the cover removed.

### The New Design

The instrument shown combines up and down line indications. The upper indicator refers to indications received, and the lower indicator to indications sent, in accordance with the usual practice. The lower indicator is operated by turning a handle. The indications are given by means of a black pointer (on a white background) which may point to "Line Clear" (on the left), "Normal" (vertical position), or "Train on Line" (on the right).

The front of the handle is marked with an arrow, and the arrow may be turned so as to point to any of the three indications, namely, "Line Clear," "Normal," or "Train on Line." The handle is held in each position by a spring catch. Beneath the handle is a small press-button. To enable the handle to be turned to "Line Clear," the button must be pressed momen-

tarily. The handle may be turned from "Line Clear" to "Train on Line" or "Normal" without pressing the button.

"Reminder flaps" are provided, one on each side of the handle. The left-hand flap, when turned, discloses the words "Clearing point fouled" and locks the handle in whatever position it may be. The right-hand flap can be turned only when the handle is in the "Train on Line" position; it discloses the words "Train at signal," and locks the handle in the "Train on Line" position.

The back view of the old instrument does not, of course, show the whole of the construction, as the operating coil movements are inside the instrument. The back view of the new instrument shows the complete internal construction, coil movements, and commutator contacts, from which it is apparent that from an engineering point of view considerable simplification has been achieved. This should be reflected in increased reliability and ease in upkeep.

The use of a pointer operated by a handle is not novel on the G.W.R., as this arrangement was introduced some years ago in the single line lock and block instruments working through the Malvern and Ledbury Tunnels. Handles have been used also for many years for operating the lock and block system through the Severn Tunnel; and were incorporated again in the power signalling interlocking frames at Paddington, Bristol, and Cardiff.

The design of the new block instrument is functional in conception. The case work is on very simple lines; the instrument is easy to manipulate; and, most important of all, it is thought that the indicators, which are the vital part of the block signalling system, should display the indications more prominently than the flag indicator on the G.W.R. standard disc block. The coil movement is retained.

The trial is being conducted under the direction of the Superintendent of the Line, and the new block instrument, which was introduced in actual service conditions on October 19, was designed and constructed by the staff of the Signal & Telegraph Engineer at Reading.

### Permanent Way Inspection at Taylor Bros. (Sandiacre) Ltd.



Recent inspection of switches and crossings in F.B. rail at Taylor Bros. (Sandiacre) Ltd. The party also inspected the original 113-lb. switches and crossings at Kegworth

Left to right: Messrs. W. K. Wallace, Chief Civil Engineer, L.M.S.R.; C. J. Chaplin, District Engineer, Bradford, L.M.S.R.; H. B. Everard, Engineer (Permanent Way), L.M.S.R.; L. Taylor, Director, Taylor Bros. (Sandiacre) Ltd.; N. W. Swinnerton, Chairman, Track Design Committee; G. B. Barton, Acting Chief Engineer, L.N.E.R.; V. A. M. Robertson, Chief Civil Engineer, Southern Railway; J. Ratter, Civil Engineer, Maintenance, L.P.T.B.; A. S. Quartermaine, Chief Engineer, G.W.R.

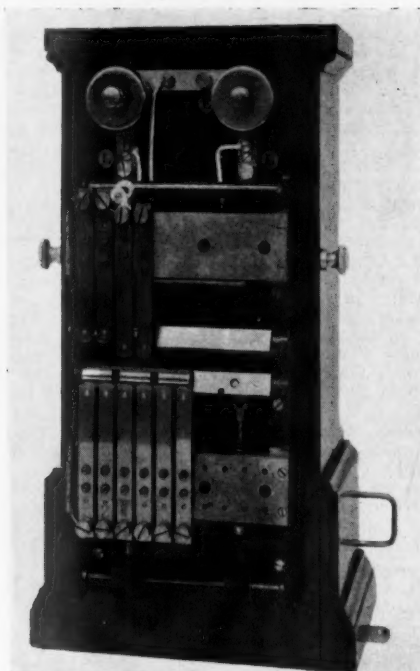


## Old and New G.W.R. Block Telegraph Instruments

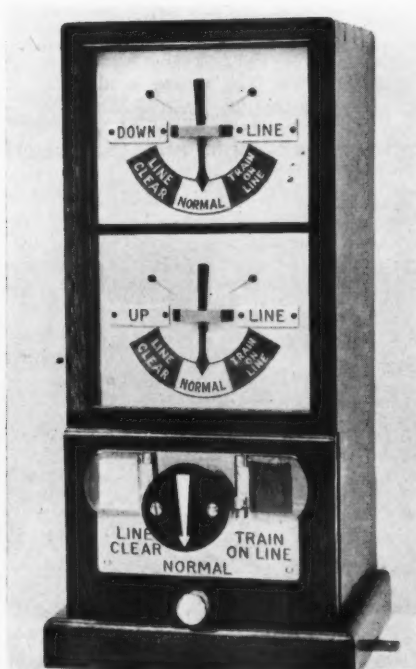
(See article on page 585)



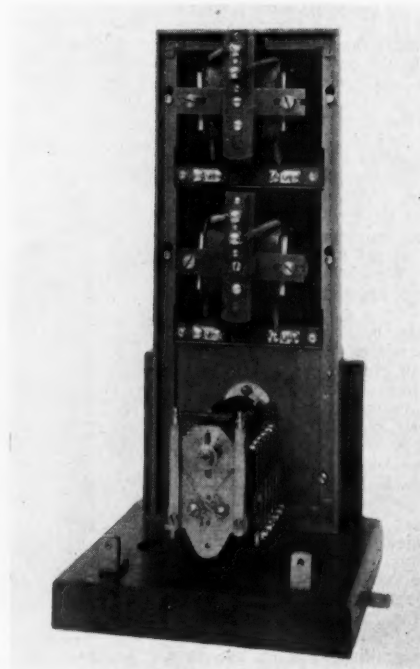
*Standard type Spagnoletti block instrument, adapted by the G.W.R. for two-line indications and fitted with reminder flaps*



*Rear view of instrument, showing built-on extension to accommodate multiple contacts necessitated by modern developments*



*Front view of new instrument, with handle replacing taper keys and pointers instead of the flag indicators of the former standard type of instrument*



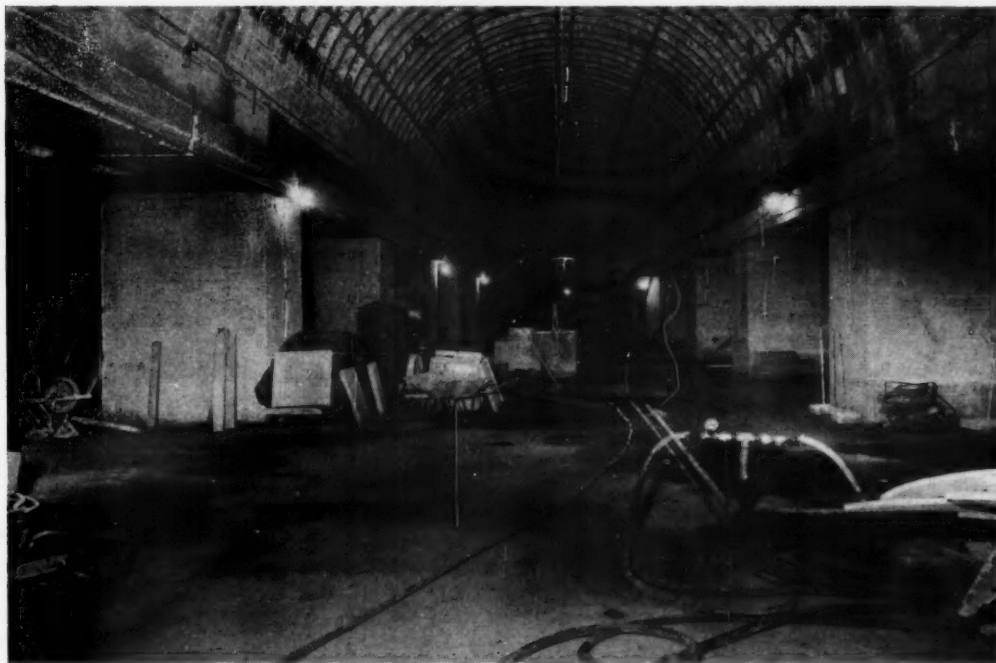
*Complete electrical equipment of the new instrument, showing the simplification achieved compared with the top picture, in which the coils are inside the main casing*

## Two New London Transport Stations

(See news article on page 596)



*The new Wood Lane Station, Central Line, in course of construction. It is being resited some 350 yd. north of the existing station and is just opposite the White City Stadium. A sketch plan was included in our issue of December 6, 1946. The station will be opened on November 23*



*Interior of concourse at platform level of Gants Hill Station, on the Eastern Extension of the Central Line, which is to be opened on December 12. This station is reminiscent of the Moscow underground, with its 50-yd. long underground hall flanked with massive pillars. The trains will run on each side. It will be the only tube station of its type in London*

## Stainless-Steel Prototype Composite Coach

*Built by the Budd Company, U.S.A., for the  
Pressed Steel Co. Ltd., of Cowley, Oxford*



*General view of third class section of coach*

AS was recorded in our October 17 issue, a British adaptation of an American built railway coach recently was shipped to this country from the U.S.A. The coach was built in Philadelphia by the Budd Company for the Pressed Steel Co. Ltd., of Cowley, Oxford, and it has been inspected in this country by a number of British railway executives and by the Consulting Engineers to overseas railway administrations. The coach, which is of stainless-steel construction, was built to British specifications and combines traditional British compartment arrangements with coach seating typical of Budd-built coaches for the American railways.

Provision is made for 18 first-class passengers in three compartments, which are entered through sliding doors from a heated corridor at the side of the coach. Another corridor, across the width of the coach and with side doors at both ends, separates the compartments from the third-class section, which has seats for 30 passengers. The coach is intended to serve as a prototype from which the Pressed Steel Co. Ltd., using Budd manufacturing methods, will build other vehicles.

The compartments are carpeted and have foam-rubber seats, upholstered in mohair, with fixed arm and head rests. Both incandescent and fluorescent lighting are used. The baggage racks above the seats have individual reading lamps underneath.

Heating units are placed under both rows of seats in each compartment. The windows and doors are draped with bright fabric, and the wall ornaments are of relief design in cast metal.

A lavatory for the first class passengers is at the vestibule end of the coach. It is fitted with wash basin, toilet, mirror, dispensers for paper and linen towels, comb and brush trays, ash receivers, soap dispenser, and coat and hat racks. The walls behind the toilet and wash basin are stainless steel. The floors and sanitary mould-

ing are of ceramic tile. Water is stored in a stainless-steel tank situated above the vestibule.

The third class section, which resembles that of an American car, accommodates 30 passengers in rotating, reclining seats which have adjustable foot rests and built-in ash trays. The central lighting system is fluorescent, with four groups of three tubes each located in a trough in the centre of the ceiling. The baggage racks have a Vinyl plastic backing. The spotlight-type reading lights under the racks are individually controlled. The end walls are decorated with wood veneers and metal carvings, in relief. Bright colours are used on the walls, and the floor linoleum is a colourful tile. The lavatory at the vestibule end of this section is similar to that for the first class compartments.

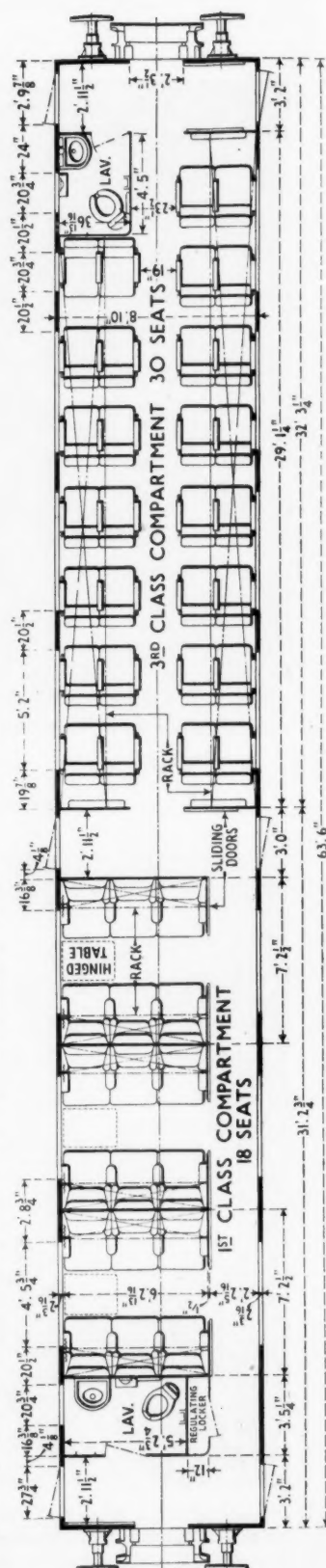
The structural members of the coach framing, including the roof and side structure and exterior panels, are stainless steel. The latter are welded to the roof and side structure.

### Ventilation

The coach is insulated against heat and sound. Ventilation is by means of ducts in the roof. Fresh air can also be forced into the coach during hot weather through the heating ducts, but air conditioning is not provided. A sliding section at the top of each window provides additional ventilation. The windows have two layers of glass with an air space between. The outer layer is glare-resistant Solex glass; the inner, laminated safety glass.

The bogies and brakes are of the standard British type. The coach, however, is said to be the first to have a single central cylinder to operate the brakes of both bogies. The coach, which conforms with English standards, is 63 ft. 6 in. long and weighs approximately 29 tons 5 cwt. inclusive of auxiliary equipment and batteries.

Stainless steel of the "18-8" specifica-



*Plan showing principal dimensions and arrangement of seats and other accommodation in coach*



tion is used for the structure of the coach; among the advantages claimed for its use are high structural strength, resistance to corrosion, economy in maintenance, and lightness in weight. In the stainless-steel prototype coach for 48 passengers the tare weight is 1,330 lb. per passenger, as compared with a more usual figure for a standard coach of steel construction of approximately 1,560 lb. The saving in weight in the former coach is effected in the coach structure, and the bogies, brake gear and draft gear are standard.

During the manufacture of the coach at the Budd works it was passed through a testing laboratory equipped with facilities for subjecting the coach to stresses, one of which is known as the "squeeze" test. End pressures up to 2,000,000 lb. can be exerted during this test, and pressures of as much as 1,865,000 lb. have been withstood

successfully by Budd manufactured cars. From the constructional standpoint, an advantage of the use of stainless steel is its welding characteristics which enable the main parts to be jig assembled and sub-assemblies to be integral in the main structure. Individual members and parts, in the main, are pressings and drawn sections that are designed for multiple production on standard equipment.

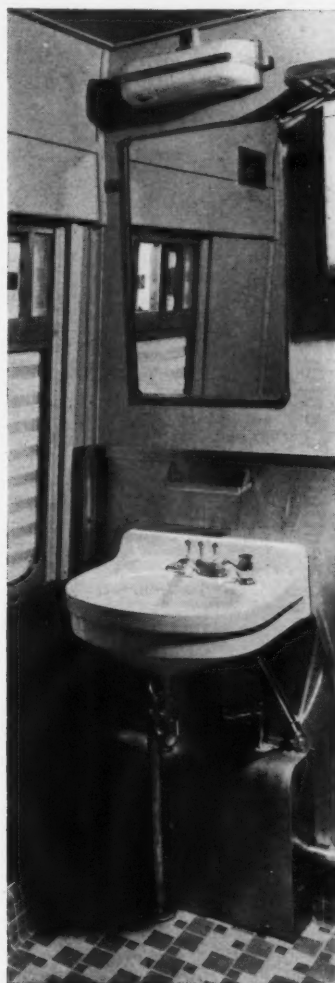
Mr. Michael A. H. Bellhouse, Assistant Managing Director, Pressed Steel Co. Ltd., stated during the visits of inspection that the weight of 29 tons 5 cwt. ready to run of the prototype coach compared with rather more than 34 tons in the case of a coach with standard construction carrying the same equipment. With the experience gained in designing and building the prototype, it should be possible to reduce the weight of future coaches of similar design

to approximately 27 tons without sacrificing strength. A seven-coach train of stainless-steel coaches would weigh the same as a six-coach train of standard coaches.

He added that the prototype coach was the first to be shown in this country which conformed to the latest loading gauge, and which allowed it free running with no restrictions over the main lines of the four British railway companies. It was expected to make these coaches at new works at Linwood, near Glasgow.



*Arrangement of first class compartment*

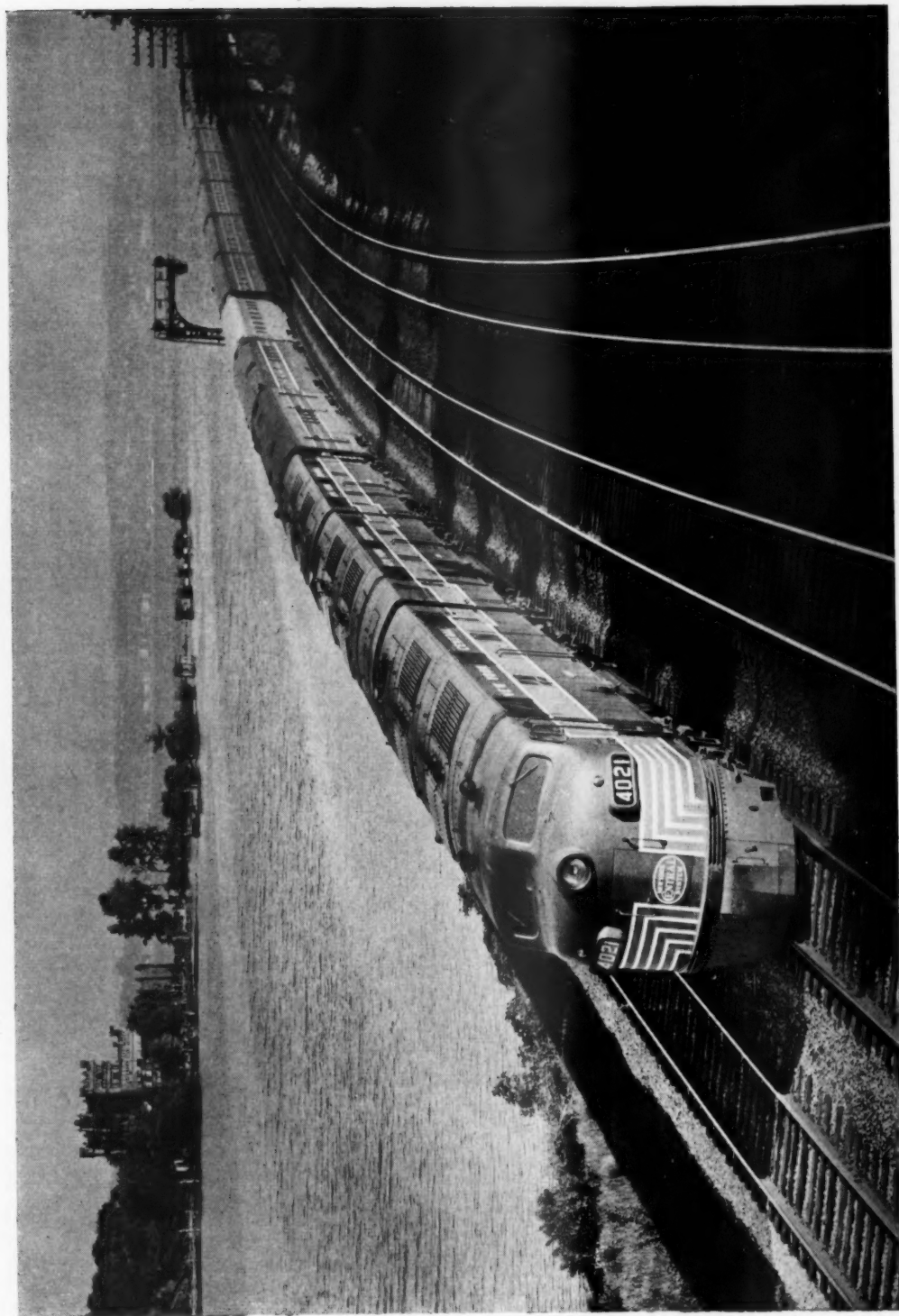


*Stainless steel is used for lavatory walls*



*General view of the exterior of the prototype stainless-steel coach which weighs 29 tons 5 cwt.*

# The Diesel-Hauled "Twentieth Century Limited"



*Eastbound "Twentieth Century Limited," New York Central System, opposite Newburgh on the Hudson River; the third coach of the train is the Santa Fe trans-continental*

mis  
192  
ma  
Off  
aw  
wa  
cor  
of  
Ne  
sev  
cre  
of  
pra  
and  
wa  
app  
For  
Ho  
An  
sha  
An  
the  
to  
Mi  
spe  
194

## RAILWAY NEWS SECTION

## PERSONAL

Mr. J. H. Brebner, O.B.E., F.R.S.A., Chief Public Relations & Publicity Officer, L.P.T.B., who, as recorded on page 594, has been appointed Chief Public Relations & Publicity Officer to the British Transport Commission, will, in that capacity, be responsible also for the co-ordination of the public relations and the advertising policy of the various Executives under the Com-

missioner of State, Middle East, and during his stay at Cairo arranged Press conferences for Mr. Churchill and other Ministers, newspapers for the Forces and a home news service for desert troops. He was also appointed by the Minister of State as the head of an Anglo-American Mission to General Eisenhower. In 1944 he was placed in charge of Press relations in connection with the King's visit to his troops in Italy. In the same year he was

Mr. George Morton, M.Inst.T., Chief Accountant, and a member of the Executive Committee, of the L.M.S.R., who, as recorded in our October 17 issue, has been appointed Chief Financial Officer of the Railway Executive, was educated at the Lower School of John Lyon, Harrow, and entered the service of the former L.N.W.R. in the Audit Department in 1901. In 1921 he became Chief Clerk of that department, and on amalgamation in



Photo

Mr. J. H. Brebner

Appointed Chief Public Relations & Publicity Officer to the British Transport Commission



[Lafayette

Mr. George Morton

Appointed Chief Financial Officer of the Railway Executive

mission. Mr. Brebner was associated in 1929 with Sir Kingsley Wood, then Postmaster-General, in popularising the Post Office services; for his work he was awarded the M.B.E. In 1937 Mr. Brebner was appointed a member of the official committee for the creation of the Ministry of Information, and designated Director, News Division, a position he held under seven Ministers. The organisation he created for the distribution and handling of news throughout the world earned the praise of the British, Empire, American and foreign Press; for those services he was made an O.B.E. In addition, he was appointed an Associate Member of the Foreign Press Association, and an Honorary Member of the Association of American Correspondents, an honour shared with General Eisenhower and the American Ambassador. From 1943 until the end of the war Mr. Brebner, in addition to his duties as Director, News Division, Ministry of Information, was engaged on special missions, many overseas. In early 1943 he was appointed Adviser to the

appointed Executive Chairman of the Anglo-American Committee which organised successfully the distribution of millions of words of news, describing the landings in France on D-Day; he had under his control the entire communications resources of this country, including the cable companies to all parts of the world. In 1944 Mr. Brebner was appointed the first United Kingdom Press Officer in charge of Press relations of the Imperial Prime Ministers' Conference; also in that year General Allen, Chief of S.H.A.E.F., asked the Minister of Information for the loan of his services to re-organise the Press communications and facilities in Paris, Brussels, Copenhagen and throughout Europe. Later Mr. Brebner was invited by the Czechoslovak Government to visit Prague. For his work on behalf of the Allied Press, the American Government awarded him the Medal of Freedom with Bronze Palms. He has also received the Freedom of the City of London. He joined the L.P.T.B., as Chief Public Relations & Publicity Officer, in January, 1946.

1923 he was the Senior Divisional Audit Accountant of the L.M.S.R. On the merger of the Accountant's and Audit Departments of the L.M.S.R. in 1925, Mr. Morton was appointed Audit Assistant to the Chief Accountant, and on January 1, 1930, he was made Assistant Chief Accountant, from which position he was promoted to be Chief Accountant in 1937. He has been responsible for several re-organisation schemes within the L.M.S.R. Accountant's Department, the largest of which was the merging of the various English divisional audit offices of the company in 1926. He has visited America to study railway accounting methods in that country, and has been the means of displaying British railway accounting practices to representatives of other countries. Mr. Morton acted for several years as an investigator of railway companies' compensation claims against the Government in respect of the control of the railways during the 1914-18 war. He has taken part in Clearing House conferences over a long period, and has been Chairman of

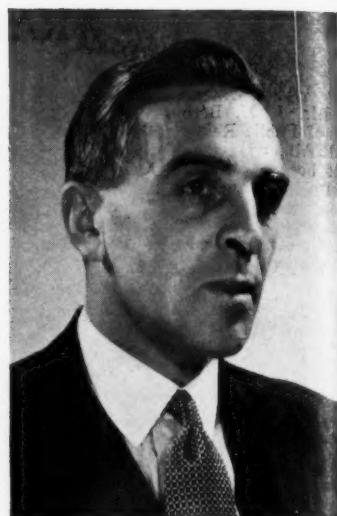




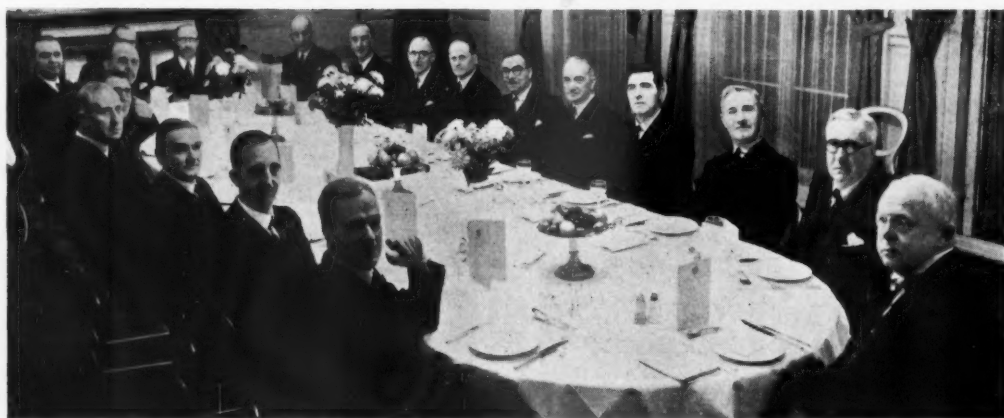
**Mr. G. B. Barton**  
Appointed Acting Chief Engineer,  
L.N.E.R.



**Mr. W. J. Elliott**  
Director & General Manager, Hay's Wharf Cartage  
Co. Ltd., who has retired from the latter position



**Mr. Harold Elliott**  
Appointed General Manager, Hay's Wharf  
Cartage Co. Ltd.



*Railway Clearing House Coods Managers' Conference Centenary Dinner (see page 594)*



**Mr. W. G. W. Reid**  
Appointed General Manager, Madras & Southern  
Maharatta Railway



[Photo]

[Lafayette]

**The late Mr. J. W. Punter**  
Lately Director, Tyer & Co. Ltd., who had  
completed over 60 years in railway signalling



**Mr. F. A. Bottomley**  
Appointed General Manager, Entre Rios Railways  
and Argentine North Eastern Railway

the  
sever  
in th  
conne  
Pooli  
ment  
L.M.  
has b  
tants  
durin  
nent  
of T  
relati  
fleet  
wago  
of C  
and  
a fun

Mr  
Chie  
quen  
Train  
appo  
his e  
Barn  
main  
of ra  
was  
King  
ried  
Hull  
appo  
const  
Hull  
caste  
one e  
to F  
his  
Roya  
wher  
tary  
Assis  
tired  
of C  
Hull  
after  
North  
appo  
L.N.  
trans  
ginee  
1943  
Lond  
been

Mr  
cord  
tired  
ager  
but  
was  
an  
Son,  
fords  
when  
being  
was  
ber c  
repre  
isatio  
chief  
first  
pany  
ing S  
exper  
busin  
mana  
line  
Wha  
by t  
he b  
appo  
Wha  
comp  
Limit  
and  
group

the Railway Statistics Committee for several years. He was closely concerned in the setting up of the financial structure connected with the London Passenger Pooling Scheme and other similar arrangements. He is a Director of several L.M.S.R.-associated bus companies, and has been a member of the R.E.C. Accountants Committee since its formation; during the recent war he played a prominent part, under the aegis of the Ministry of Transport, in the financial negotiations relating to the hire and repair of the large fleet of requisitioned privately-owned wagons. Mr. Morton is a past Member of Council of the Institute of Transport, and has been re-elected to the council for a further period as from October 1 last.

Mr. G. B. Barton, M.I.C.E., Assistant Chief Engineer, L.N.E.R., who, consequent on the appointment of Mr. J. C. L. Train to the Railway Executive, has been appointed Acting Chief Engineer, began his engineering training on the old Hull & Barnsley Railway and was engaged on maintenance work and on the construction of railways in South Yorkshire. Later he was employed on the construction of the King George Dock at Hull, a work carried out jointly by the North Eastern and Hull & Barnsley Railways. He was then appointed Resident Engineer on joint lines constructed by the Great Central and Hull & Barnsley Railways in the Doncaster area. In 1917 he was in charge of one of the civilian railway companies sent to France for maintenance work, and on his return received a commission in the Royal Engineers and was sent to Palestine, where he served with the Palestine Military Railways and eventually became Assistant Maintenance Engineer. He retired from the Army in 1919 with the rank of Captain, and returned for a time to the Hull & Barnsley Railway, which shortly afterwards was amalgamated with the North Eastern Railway. In 1924 he was appointed District Engineer, Boston, L.N.E.R., and in January, 1937, he was transferred to London as Assistant to Engineer (Maintenance), Southern Area. In 1943 Mr. Barton was appointed Engineer, London, and since May 21 this year has been Assistant Chief Engineer.

Mr. William John Elliott, who, as recorded in our November 7 issue, has retired from the position of General Manager of Hay's Wharf Cartage Co. Ltd., but continues to serve on the board, was born at Bourton, Dorset, and after an apprenticeship with S. Hindley & Son, road motor engineers, joined Pickfords Limited at the age of 22 in 1905, when sixteen-span teams of horses were being used for heavy haulage. His change was made at the same time as a small number of Hindley steam lorries was delivered, representing the beginning of the mechanisation of the company's fleet. In 1912, as chief fitter, Mr. Elliott himself drove the first petrol-driven vehicle into the company's depot at City Basin, actually a Tilling-Stevens petrol-electric. He has had experience in every phase of the cartage business, mechanical, operational, and managerial. In 1933, when the four main-line railways acquired control of Hay's Wharf Cartage Co. Ltd. (which had by then acquired control of Pickfords) he became General Manager, and he was appointed a Director in 1941. Hay's Wharf Cartage Co. Ltd. controls 21 companies including, besides Pickfords Limited, Carter Paterson & Co. Ltd., and a number of smaller companies. The group operates 3,376 motor vehicles, and

has a staff of 12,000, and in its Household Removals Department alone has 146 branches and 240 depositories. Last year the group handled 34,000,000 "parcels," ranging from small consignments to loads of 150 tons. Mr. Elliott is remaining a Director, in addition to the parent company, of Pickfords Limited, Carter Paterson & Co. Ltd., and other subsidiaries.

Mr. Harold Elliott, Assistant General Manager of Hay's Wharf Cartage Co. Ltd., who, as recorded in our November 7 issue, has been appointed General Manager of that company and of its subsidiary companies, in succession to his father, Mr. W. J. Elliott, is 41 years of age. He was educated at Brighton College and then went to Switzerland in 1924 as an apprentice to the Société Anonyme A. Saurer (the Swiss commercial motor vehicle manufacturers), with which he spent eighteen months in the main factory at Arbon, and a further six months at Morges. He joined Pickfords Limited (now a subsidiary of Hay's Wharf Cartage Co. Ltd.) in January, 1926, and, after some six months under the then General Manager, was posted to the Travel Department, in which he remained until 1929. He then was transferred to the transport side of the business and subsequently took charge of the newly-formed Multiple Shops Department. After the acquisition of the group by the main-line railways in 1933, a comprehensive scheme was evolved for reorganising parcels carrying, based on a new parcels depot at Willow Walk, Bermondsey. Mr. Elliott was appointed to take charge of this section, which he did with considerable success. In 1938 he was appointed Commercial Assistant to the General Manager, and, as a member of the Liaison Committee, took part in the "square deal" negotiations with the railway companies; arising therefrom, he became an original member of the Road & Rail Central Conference. He has thus had extensive experience in all branches of the business; and also has travelled widely. In June, 1940, he became Controller of Road Transport for the Ministry of Supply, and from December, 1942, to the end of 1944 was Director of Transport, Middle East Supply Centre, Cairo. He is one of the few Europeans who have crossed the Desert of Saudi Arabia from the Red Sea to the Persian Gulf, and has been entertained by King Ibn Saud. On his return to civil life he was appointed Assistant General Manager of Hay's Wharf Cartage Co. Ltd. in June, 1945. He has also become National Representative of the Bulk Liquids Functional Group of the Road Haulage Association, and now is Vice-Chairman of the board of the new Meat Transport Organisation Limited. The Minister of Transport has appointed him a national member of the Road Haulage Central Wages Board, and he is also a member of the Road Panel of the J.I.C. for the Road Transport Industry. His other activities in the transport world include membership of the Committees of the Central London Sub-Area and Metropolitan Area, Road Haulage Association, and membership of the Metropolitan Area Committee of the Standing Joint Committee on Road Transport Education. He is also on the Council of the Institute of Transport, 1947-48, and is a Director of Crouchers Limited, Shepherd Bros. Ltd., Express Transport (Wellingborough) Limited, and other allied companies. He is a Liveryman of the Carmen's Company and a Freeman of the City of London. To Mr. Elliott will fall the important task of ensuring the smooth transfer of Hay's

Wharf Cartage Co. Ltd. (which is owned by the four main-line railways) to the British Transport Commission.

Mr. W. G. W. Reid, M.I.Loco.E., who has been appointed General Manager, Madras & Southern Mahratta Railway, entered the Great Eastern Railway locomotive works as an apprentice, and served in the shops from 1913-16. He then joined the R.N.A.S., and was engaged on the construction, maintenance and test flying of airships. Mr. Reid was demobilised in 1919, and rejoined the G.E.R. in the drawing office. He was appointed Assistant Locomotive Superintendent, Madras & Southern Mahratta Railway, in 1922, and was promoted Assistant Mechanical Engineer, Senior Scale, in 1931. He held charge of both metre and broad gauge locomotive and carriage shops for six years. Mr. Reid was placed on special duty in connection with the inauguration of a cost accounting system for the mechanical workshops in 1934; and again in 1939, in connection with the improvements of standards of maintenance in the locomotive running sheds. He occupied successively the positions of Deputy Chief Mechanical Engineer (1940-43) and Chief Mechanical Engineer (1944), and later was appointed a member of the Depreciation Fund Committee set up by the Railway Board to inquire into the lives of assets on Indian Government Railways. Mr. Reid was afterwards placed on special duty with the Railway Board, and was made Director, Mechanical Engineering; he was confirmed in that post in 1945, and held it until appointed to officiate as General Manager, M.S.M.R., last February, in which position he has since been confirmed.

Mr. James William Punter, M.I.Mech.E., M.I.E.E., M.I.R.S.E., M.Inst.T., whose death, at the age of 81, we recorded briefly last week, had been for many years a well known personality in the railway signalling profession, with which he had been actively associated for more than 60 years. After serving an apprenticeship at the Kilburn Works of Saxby & Farmer, he was occupied on many noteworthy installations for that company in Belgium, Russia and other Continental countries. He later joined the Engineering Department, Madras Railway, and after several years returned to England to take up a post with the L.N.W.R. While in India he had served with the Madras Volunteers; and he was commissioned in the R.E. (Territorial Army), and for many years held the rank of Captain. Later Mr. Punter went to superintend the Signal Department, Egyptian State Railways; for his services he received the Order of Osmanieh and the title of Bey. He returned to England in 1909 to take up a managerial post with Tyer & Co. Ltd., and shortly afterwards was elected to the board; he remained a Director until the end of last year. He was one of the earliest members of the Institution of Railway Signal Engineers, and was elected its President for 1931. During his long professional career he was the patentee of a large number of inventions, the majority of which related to railway signalling apparatus. Mr. Punter was a prominent Freemason of the Grand Lodge of Egypt. He took an active interest in politics, and was Chairman of the Southend Division Conservative Association for many years. He was a Companion of the Ottoman Order.

Mr. F. A. Bottomley, who, as recorded in our August 8 issue, has been appointed General Manager of the Entre Rios Rail-

ways and the Argentine North Eastern Railway, has been a member of the local boards of those railways, and their Legal Representative, since 1929; and since 1946 he has held the additional appointment of Deputy General Manager. He entered the London office of the Entre Rios Railways in 1904. In 1907 he was transferred to the General Manager's Office at Parana (Entre Rios), and subsequently served in various capacities in the Traffic and Accountant's Departments. In 1910 he was appointed Chief of the Tariffs Office. In 1912 Mr. Bottomley was transferred to Buenos Aires as Secretary of the local board of the Entre Rios Railways, which position he continued to hold until his appointment as Local Director and Legal Representative in 1929. In 1920 he had assumed charge also of the Local Secretaryship of the Argentine North Eastern Railway as a result of the establishment of a joint administration of that company and the Entre Rios Railways.

The Minister of Transport has appointed Mr. P. Faulkner to be an Under-Secretary in the Ministry.

#### British Transport Commission

The British Transport Commission announces the following appointments:—

Mr. J. H. Brebner (at present Chief Public Relations & Publicity Officer, L.P.T.B.), to be Chief Public Relations & Publicity Officer, in which capacity he will also be responsible for the co-ordination of the public relations and the advertising policy of the various Executives.

Mr. A. E. Sewell (at present Joint Chairman, Road-Rail Central Conference), to be Charges Adviser to the Commission.

Mr. S. B. Taylor (at present Joint Assistant Secretary, G.W.R.), to be Deputy Secretary.

Mr. F. Gilbert (at present Deputy Chief Officer for Labour & Establishment, Southern Railway), to be Assistant Secretary, Staff & Establishment Section.

Mr. M. R. Bonavia (at present Assistant to the Chief General Manager, L.N.E.R.), to be Assistant Secretary, Development & Works Section.

The Commission gratefully acknowledges the co-operation of the main-line companies and the L.P.T.B. in releasing these officers from their present duties.

#### L.P.T.B. APPOINTMENT

Consequent on the appointment of Mr. J. H. Brebner, O.B.E., as Chief Public Relations & Publicity Officer, British Transport Commission, Mr. George Dodson-Wells, M.B.E., has been appointed Acting Chief Public Relations & Publicity Officer, L.P.T.B., from November 17; he will be responsible for the Public Relations, Press and Publicity Divisions. Mr. S. S. Wheeler, Commercial Advertising Officer, London Transport, will be directly responsible to the Acting Chairman of the Board.

We regret to record the death on November 16, in his 84th year, of Mr. Henry A. Sire, C.B.E., who was Chief Commercial Manager, Southern Railway, from 1923 until his retirement in 1930.

Mr. R. A. Riddles has accepted the invitation of the council to become President of the Junior Institution of Engineers for the session 1947-48. Mr. Riddles, a Vice-President of the L.M.S.R. since 1946, was recently appointed a member of the Railway Executive.

### R.C.H. Goods Managers' Conference Centenary Dinner

Members of the Railway Clearing House Goods Managers' Conference, together with Mr. David Blee, Mr. C. K. Bird and Mr. A. E. Sewell, were entertained to dinner at the Charing Cross Hotel on November 13 by Mr. A. E. Hammett, Commercial Superintendent, Southern Railway, the present Chairman of the conference. The occasion was in celebration of the centenary of the conference, which held its first meeting on January 19, 1847.

Mr. Hammett, in proposing the toast of the conference, spoke of the great work on behalf of the railways which it had carried out, and, alluding to the records of its early meetings, called attention to the skill with which the predecessors of those present had laid the foundations of the economics and conditions appertaining to the carriage of merchandise by rail. Those transport pioneers had also been quick to see the advantages of collaboration, and their wisdom in bringing problems of a highly competitive era for discussion and solution at Clearing House meetings had brought into being this conference, which had withstood for so long the changes wrought by the industrial development of the country. Small at first, with the participation of only nine companies, it had grown in strength to a body representative of 160 independent interests in the middle of the nineteenth century. The impending changes in railway control would inevitably alter the form of the Goods Managers' Conference, but its members, under whatever name or organisation they functioned, would continue, from their accumulated knowledge and experience, to make their utmost contribution to the success of railway transport.

Mr. Paul Gibb, Goods Manager, North Eastern Area, L.N.E.R., seconded the toast, and, speaking with 28 years' experience of attendance at meetings of the conference, compared the character of the deliberations at the present time with those immediately after the first world war, when fifty or more officers, representing over thirty different railways, had taken part. He likened the conference of those days to an orchestra under its conductor, the Chairman, who strove, and successfully

strove, to produce harmony from a medley of discords. The structure of the present body had undeniably varied, but its character and calibre were the same, and he recalled that it was still the responsibility of the members to determine how a large part of the revenue of the railways should be obtained. He averred in all faith that this had been a wonderful conference for the British railways.

Mr. C. K. Bird, Acting Divisional General Manager, Southern Area, L.N.E.R., proposing the toast of the future of the British railways, disclaimed the possession of the attributes of a prophet, and pointed to the obscurity of the future, arising from the impermanence of the economic position of the country and the coming nationalisation of transport. He felt, however, that, in the face of changes which would occur, there would be a demand for a level of efficiency from the railways greater even than they had achieved in the past, and he expressed his confidence that those requisites would be fully met. It would be the proud duty of railwaymen in the future to expedite the flow of the life blood of the country and so help to secure the welfare of the nation, a task which he considered not unworthy of their highest skill and best endeavours, and one which he was convinced they would fulfil in complete measure.

Mr. W. P. Bradbury, Chief Commercial Manager, L.M.S.R., seconded the toast, and hoped that ways would be found of providing the railways with a sufficiency of labour and material to enable them to take their full share in the country's recovery from the aftermath of war and economic stress. Standing though they were on the threshold of a new era, he yet felt satisfied that, given the means, they could play no inconsiderable part in the industrial and social future of the country.

Mr. David Blee, lately Chief Goods Manager, G.W.R., and now a member of the new Railway Executive, saw in the annals of the Goods Managers' Conference a history of change, as was in fact all history. Previous speakers had traced the transition of the conference from its beginnings to its present form, and, while it

was now passing through an epoch-making period, he was sure that the British railways would retain in some form the advantages of the services of such a body. He trusted that the spirit which had animated the conference for 100 years would remain to inspire it in the years to come; and if its members, men of wide practical experience, continued to function for the common good, he would have no apprehension for the future.

Mr. T. J. Lynch, replying as Secretary to a toast to the Railway Clearing House, referred to that office as the birthplace and cradle of the Goods Managers' Conference, and gave some interesting notes on the history and development of the Clearing House from its commencement with a staff of four in 1842 to more than 3,000 immediately before the 1914-18 war. It was, he suggested, entitled to a feeling of pride in its record of service to the railways, and not least to the Goods Managers, and he illustrated the scope of its work by comparing the 80-100 meetings per annum in the early years of this century with the total of 2,859 for which the R.C.H. had undertaken the secretarial work in 1946.

Other speakers were Mr. J. A. Kay, Editor of *The Railway Gazette*; Mr. D. R. Lamb, Editor, *Modern Transport*; Mr. G. Leadam, Secretary & Manager, Cheshire Lines Committee, who proposed the health of the Chairman; Mr. J. R. Pike, Assistant Chief Commercial Manager, L.M.S.R.; Mr. David Stewart, Traffic Manager, Coras Iompair Eireann; and Mr. H. S. Knott, Traffic Manager, Great Northern (Ireland) and Belfast & County Down Railways.

The following is a complete list of those present:—

Messrs. A. E. Hammett, Southern Railway; David Blee, Railway Executive; A. E. Sewell, Chairman, Rail Panel, Road-Rail Central Conference (and recently appointed Charges Adviser to the British Transport Commission); J. A. Kay, *The Railway Gazette*; D. R. Lamb, *Modern Transport*; G. Leadam, C.L.C.; D. Stewart, C.I.E.; H. S. Knott, G.N. (I) and B. & C.D.; C. Furber, G.W.R.; E. W. Arkle, C. K. Bird, P. Gibb and A. A. Harrison, L.N.E.R.; W. P. Bradbury, J. R. Pike and F. Grundy, L.M.S.R.; W. H. F. Mepsted, Southern Railway; T. J. Lynch and H. S. Hunt, R.C.H. Mr. W. Yeaman, L.M.S.R., was unfortunately prevented from attending.

(See illustration on page 592)



## Modern Methods of Handling Goods Traffic at Railway Stations

Mr. T. W. Royle, Vice-President, L.M.S.R., and a Vice-President of the Railway Students' Association (London School of Economics & Political Science), read a paper to the association on "Modern Methods of Handling Goods Traffic at Railway Stations" on November 12. The paper, which dealt with modern L.M.S.R. practice as exemplified at the Birmingham Lawley Street and Derby St. Mary's depots, was illustrated by films and lantern slides.

Mr. Royle recalled that a survey of goods shed working made after the grouping showed that the larger the shed, the more expensive was the handling of goods. A staff of experts was appointed in 1935, therefore, to inquire into the best methods and type of layout for dealing with miscellaneous traffic. The inquiry showed that there was scope for elimination of waste time and effort both by the improvement and organisation of the work, and the introduction of mechanical aids. Another factor that emerged was that the uneconomical provision of staff sufficient to meet the heavy evening peak of forwarded traffic could be reduced very substantially, or entirely eliminated, if arrangements were made to use the services of the town carter to assist the shed staff in the discharge of the town collection vehicle direct to wagon.

Mr. Royle dealt first with the working at Lawley Street (described and illustrated in our January 4, 1946, issue). Incoming wagons are unloaded on to two conveyors, from which the items are sorted either on to internal station drays in the case of tranship traffic, or on to flats for town deliveries. The flats are moved to the delivery vehicle loading points by two trawlers, running on parallel tracks. Either trawler can deposit its load on the deck, or on storage piers between the two tracks, from which the flat can be picked up by the other trawler and placed on the alternative deck according to the destinations of the goods.

Each deck is equipped with a runway having a creeper chain conveyor, by means of which the flats are moved past the waiting drays under the control of the dray loaders. Unloaded flats are removed by the trawlers, which thus perform useful work both on their outward and return trips to and from the wagon unloading points.

The internal station drays on to which tranship traffic is loaded are pneumatic-tired vehicles, which are hauled by an electric tractor to the reservoir at the end of the forwarded wagon roads. From this point the drays are drawn alongside the outwards wagons by horses, equipped with light tubular shafts having an automatic coupling arrangement.

There are eight outwards wagon roads, on which 203 rail vehicles can be set. Paved cart roads run alongside the tracks, and the carter or motorman who collects goods from the Birmingham traders takes his vehicle directly alongside the appropriate rail wagon for the loading of the traffic.

The layout at Derby St. Mary's differs from Lawley Street in that inwards rail wagons are dealt with on the two outer sides of the shed, while the 10 sidings used for outwards traffic are placed in the middle. At Lawley Street, on the other hand, the shed is divided into two sections, the southern dealing with forwarded traffic

and the northern with received traffic. Incoming wagons at St. Mary's are moved forward singly by capstan to a traverser, which transfers them to the road alongside an unloading machine. After being deposited on this road, they are moved forward to the machine by means of a "mule," which engages with the wagon buffer and positions the vehicle accurately at the unloading point. At one position a closed loop capstan is used for moving wagons to the unloading machine, instead of a "mule."

The unloading machine consists of a power-driven belt from which packages run on to a series of gravity rollers. The machine is capable of entering the doorway of rail vehicles. As the packages pass along the machine, they are sorted on to pneumatic-tired internal station trays, eight of which are ranked round each machine. Three drays receive traffic for the three main Derby delivery areas, and the other five convey tranship traffic to the wagon loading sections.

The drays are pulled by tractors to the end of the shed, where those with town delivery traffic are ranked behind a deck, and the tranship drays are stood behind the buffer stops of the forwarded wagon

roads. Horses equipped with light tubular shafts, similar to those described at Lawley Street, are used for drawing the tranship drays alongside the rail wagons for direct loading. Collection units bringing traffic in from the town for despatch also go straight to the wagons in the same way as at Lawley Street.

In conclusion, Mr. Royle said that what had been done by the L.M.S.R. in these two new large goods sheds might not be final, and there might still be other improvements in layout to be effected. There was no doubt, however, that they did in themselves represent a marked advance on the methods hitherto followed.

A vote of thanks to Mr. Royle, and to the Chairman of the association, Sir Alexander M. Carr-Saunders, who presided at the meeting, was proposed by Brigadier-General Sir H. Osborne Mance. He said the association was fortunate in being able to hear this paper at a time when Mr. Royle was fully occupied with his duties as President of the Institute of Transport.

Among those present at the meeting were the following:—

Mr. David Blee, member, Railway Executive; Mr. A. E. H. Brown, Assistant Divisional General Manager, Southern Area, L.N.E.R.; Mr. M. A. Cameron, Assistant Passenger Manager, Southern Area, L.N.E.R., and Mr. C. E. R. Sherrington, Secretary, Railway Research Service.

## London Transport De-Icing Equipment

London Transport intends installing conductor rail de-icing equipment, of a type invented by a member of the Board's Engineering Staff, over the whole of the open sections of the existing tracks and new extensions, involving the manufacture and installation of approximately 850 de-icing machines. Some 90 of these machines were in use on certain sections of the Bakerloo Line last winter, and gave satisfactory results. Installation of the equipment therefore has continued during the summer months, and up to the present, a total of approximately 200 machines has been installed; it is hoped that this number will have been increased to about 400 by the end of this year, and that all lines will be fully equipped by the end of 1948.

The Bakerloo Line from Finchley Road to Stanmore, and the Central Line Western Extension between North Acton and Greenford, have been equipped throughout already. Installation of the equipment is in progress also on the Piccadilly Line, and it is expected that all open sections of the line from Cockfosters to Uxbridge and Hounslow will be covered fully in time for this winter.

The de-icing machine consists of a metal bath containing anti-freeze liquid, the liquid being fed by means of a rubber roller which comes into contact with the car collector shoes of all trains passing over it. The shoes then spread a continuous film of the anti-freeze liquid along the top surface of the conductor rail, thus preventing the formation over that rail of an ice crust, which normally would interrupt the current transmission to the car shoes, and cause stalling. The de-icing machine can be switched on or off as required, according to weather conditions, this being done manually at present by the operation of a small lever at the side of the metal container.

The machines are spaced along the line

at intervals determined by local conditions, track gradients and train stopping points being taken into consideration. The length of rail which is covered by the anti-freeze solution from each machine varies according to the time that the machine is in operation. With continuous running, the length of track covered has extended over some miles, but since it is necessary for the rails to be covered with the anti-freeze liquid in a matter of 3 to 4 hr., the machines are spaced at intervals of 600 yd. to half-a-mile on sections where it is expected that stalling might occur.

London Transport previously has used special "sleet trains" to prevent ice formation on conductor rails. Anti-freeze liquid is sprayed on to the conductor rails by these trains when bad weather conditions are expected. To operate the sleet trains, however, it is necessary to keep current rails alive during the night, often at short notice, and this interferes considerably with programmed engineering works. Also, it is not always possible, when particularly bad weather conditions develop, to cover the whole of the lines by liquid sprayed from the sleet trains in time to prevent trouble arising. Furthermore, it is necessary to maintain a considerable number of the sleet trains at depots, where they have to be kept fully serviced and manned throughout the winter months, ready for immediate use if required.

The de-icing machine overcomes these difficulties, and its installation throughout the London Transport system should reduce considerably delays due to bad weather. To bring the machine to its present stage of efficiency has involved much experimental work, and since conclusive results of such experiments could be obtained only when weather conditions were severe, some six years have elapsed since the first experiments were conducted.

## Welsh Inter-Railway First-Aid Competition

The annual competition for the Harry Webb Cup was held, for the first time since 1939, at Cardiff on November 6, when five teams participated, three from the G.W.R. and two from the L.M.S.R. The adjudicators were Doctors C. Armstrong, C. G. Mackay, and T. J. Davies; and the result was announced by the Hon. John H. Bruce, Principal Secretary of the Priory for Wales, as under:—

	G.W.R. ...	Marks
Cardiff Docks	...	215
Newport High Street	...	205
Cardiff General	...	185½
Mold Junction	L.M.S.R. ...	181
Abergavenny	L.M.S.R. ...	171

Among those present was the Lord Mayor of Cardiff, Alderman J. Ferguson; and representing the G.W.R. were:—

Messrs. H. H. Swift, Divisional Superintendent, Cardiff; S. E. Tyrwhitt and C. L. Simpson, Divisional Locomotive Superintendents, Cardiff and Newport, respectively; H. J. Page, Assistant Divisional Superintendent, Cardiff; A. Rees Jones, Divisional Engineer's Office, Cardiff; J. A. Martin, Assistant Ambulance Centre Secretary, Paddington; G. H. Hemmen, Area Welfare Officer, Cardiff; and B. Board, W. L. Ayers, and A. D. Morgan, Divisional Ambulance Secretaries.

Representing the L.M.S.R. were:—

Messrs. J. Cunningham, District Engineer, Abergavenny; D. M. Turnbull, District Traffic Manager, Swansea; J. S. Tickle, Assistant Traffic Manager, Swansea; H. C. Healey, Assistant Ambulance Centre Secretary, Manchester; and E. Noble and E. O. Williams, District Ambulance Secretaries.

Mr. Swift proposed a vote of thanks to the Mayor and to the adjudicators, and to the Priory for arranging the competition; and this was seconded by Mr. Cunningham.

## Two New London Transport Stations

Work is now in the final stages on two new London Transport stations, both on the Central Line. The first, which will be opened on November 23, is at Wood Lane, in West London, on the existing line to Ealing and Greenford. The second is on the new tube line between Leytonstone and Newbury Park, which is being built as part of the Eastern Extension.

The new station at Wood Lane, on which work was begun on May 6, 1946, is in replacement of the existing Wood Lane Station, and is about 350 yd. to the north. It will be of the three-platform type, with its entrance just opposite the White City Stadium.

From the traffic-operating viewpoint, one of the principal advantages will be that it will take eight-car trains instead of the six-car trains to which the Central Line has been limited. The existing station was opened on May 14, 1908, as part of the extension from Shepherd's Bush, to serve the new White City Exhibition. It was then designed as a terminal station, on a loop, and the subsequent extension of the Central Line westward resulted in difficult alterations which have proved a serious drawback to traffic operation. Trains were diverted to the new tracks on September 6 last, and the station will be opened this month.

On the Eastern Extension, more than 1,200 men are now engaged in completing the work of the new four-mile tube line between Leytonstone and Newbury Park, which it is hoped to open for traffic shortly before the end of the year. There

will be three stations on the new line at Wanstead, Red Bridge, and Gants Hill, and principal interest attaches to the last-named, which is reminiscent of the Moscow underground. At the bottom of the escalators is an underground hall 50 yd. long flanked with massive pillars and with platforms on each side. It will be the only station of its kind in London.

It may be recalled that the tunnels of the new extension were finished early in the war, and were used as an underground aircraft-component factory, which was opened in March, 1942, and provided about 300,000 sq. ft. of factory floor space, with 9 ft. 3 in. head room at centre.

Illustrations of both Wood Lane and Gants Hill stations under construction are given on page 587.

## British Successes in U.S.A. Welding Competition

On November 1, the trustees of the James F. Lincoln Arc Welding Foundation, Cleveland, Ohio, announced the 467 awards, valued at \$200,000, for the best papers on arc welded design, research, and application submitted for its third international "Design for Progress" competition.

Papers were received from 17 countries, and 24 of the awards went to Great Britain. Among these, there was a \$1,500 prize in the Functional Machinery Classification won by Mr. C. B. M. Dale, Chief Engineer, Engine Division, of the Brush Electrical Engineering Co. Ltd. and Petters Limited, who also is a member of the Research Committee of the British Internal-Combustion Engine Research Association and Chairman of the Gas Turbine Panel of that association. His subject was welded construction as applied to oil engines for stationary or marine use, with special reference to welds designed to replace castings as repair parts.

A prize of \$700 was awarded to Mr. H. B. Fergusson, Technical Director, and Mr. E. F. Burford, Chief Draughtsman, G. A. Harvey & Co. (London) Ltd., and Mr. R. V. Rowles, Technical Director, and Mr. N. A. Graveson, Chief Designer, Fielding & Platt Limited, for a design for a plate-bending machine capable of bending steel plates up to 5 in. thick and 16 ft. 6 in. long in which the arc welded parts are stress relieved. Mr. C. H. J. Cooley, also a member of the drawing office staff of G. A. Harvey & Co. (London) Ltd., won \$150 for a paper dealing with the design and construction of an oven for the drying of chemicals under reduced pressure and at relatively low temperatures.

Another prize-winner, Mr. W. J. Livesey, a member of the staff of Daniel Adamson & Co. Ltd., receives an award of \$500.

The name of Mr. E. W. Paul, Special Welder, Nizam's State Railway, appears as the winner of a \$100 award for a paper dealing with the reclamation of steel sleepers for use on an Indian railway, and describing the method used to weld rail joints. His paper also included brief descriptions of repairs to a variety of track maintenance tools.

INSTITUTE OF TRANSPORT, EAST MIDLANDS SECTION.—On November 28, at 6.30 for 7 p.m., the annual dinner of, and visit of the President to, the East Midlands Section of the Institute of Transport will take place at the Victoria Station Hotel, Nottingham.

## Questions in Parliament

### Workmen's Tickets on Sundays

Sir Frank Sanderson (Ealing East—C.) on November 3 asked the Minister of Transport whether his attention had been drawn to a notice recently issued by the L.P.T.B. to the effect that after October 26 workmen's tickets for Sundays would only be issued to mechanics, artisans, and labourers; and in view of the fact that it left out cooks, porters, kitchen hands, platemen, valets in hotels, and so on, would he consider extending the order to include those categories.

Mr. L. J. Callaghan (Parliamentary Secretary, Ministry of Transport), in a written answer, stated: Yes. But all the workers Sir Frank Sanderson refers to would qualify, with the exception of valets.

### Exports of Rolling Stock

Major R. H. Turton (Thirsk & Malton—C.) on November 6 asked the President of the Board of Trade if he would state in detail the foreign countries to which rail locomotives and parts, and carriages, wagons and trucks and parts, had been exported during the nine months ended September 30, 1947, giving the weight and value of the respective exports.

Mr. Harold Wilson (President of the Board of Trade), in a written answer, stated: The foreign countries to which rail locomotives and parts, and carriages, wagons and trucks and parts, were exported during the nine months ended September 30, 1947, were as follow:—

	Tons	£
Soviet Union ... ..	474	107,201
Finland ... ..	1,760	89,303
Norway ... ..	625	36,796
Denmark ... ..	2,422	133,230
Poland ... ..	4,790	412,879
Netherlands ... ..	1,001	108,055
Belgium ... ..	88	22,594
France ... ..	5,023	225,902
Switzerland ... ..	179	13,159
Portugal ... ..	381	38,726
Spain ... ..	78	15,603
Czechoslovakia ... ..	6,055	494,397
Jugoslavia ... ..	772	55,859
Greece ... ..	2,967	235,613
Turkey ... ..	1,867	146,065
Belgian Congo ... ..	466	37,170
Algeria ... ..	49	10,037
Tunis ... ..	301	12,027
Madagascar and Dependencies ... ..	201	30,460
Angola ... ..	989	77,938
Portuguese East Africa ... ..	142	24,989
Egypt ... ..	10,301	675,168
Iraq ... ..	381	63,248
China ... ..	314	45,703
Peru ... ..	143	35,794
Chile ... ..	180	13,179
Brazil ... ..	10,379	846,699
Uruguay ... ..	290	26,276
Argentine Republic ... ..	4,771	442,962
Paraguay ... ..	170	12,193
All other countries ... ..	600	61,852
Total ... ..	58,159	4,551,077

### Railway Traffic Operations

Mr. J. A. Sparks (Acton—Lab.) on November 10 asked the Minister of Transport what steps were being taken to improve traffic operations on the four main-line railways, with particular reference to mineral and merchandise traffic.

Mr. L. J. Callaghan: Railway freight traffic is about 20 per cent. higher than in 1938, but the number of wagons available is about 15 per cent. less. Measures have been taken to speed up the repair of wagons, and the number repaired each week is now more than double the pre-war level. A substantial programme for building new wagons is in hand. Special steps are also being taken to secure quicker turn-round. By the end of this month 700 austerity locomotives will have been brought back from the Continent. Priority has been given to building new freight locomotives. Additional billeting accommodation for railwaymen is being made

available in London. These measures together will, I am confident, considerably improve the performance of the railways, which is already good.

#### Passenger Train Delays

Mr. J. A. Sparks (Acton—Lab.) on November 3 asked the Minister of Transport what percentage of time was lost from all causes in train delays, as compared with actual scheduled running time, on the four main-line railways for any average day and week at the nearest convenient date.

Mr. L. J. Callaghan in a written answer stated: I am sorry that the available figures do not give the exact information for which Mr. Sparks is asking. The best analysis that can be made is as follows:—

#### TIMEKEEPING OF EXPRESS AND LOCAL PASSENGER TRAINS (FOUR WEEKS ENDED SEPTEMBER 6)

	Express		Local	
	Number	Per cent.	Number	Per cent.
On time ... ..	6,507	29.6	370,307	66.0
1-10 min. late ... ..	7,258	33.0	157,362	28.0
11-30 min. late ... ..	5,018	23.0	29,949	5.3
31-60 min. late ... ..	2,165	9.9	4,043	0.7
Over 60 min. late ... ..	980	4.5	—	—
Total ... ..	21,928	100	561,661	100

#### MAIN CAUSES OF DELAY TO EXPRESS TRAINS ARRIVING OVER 60 MINUTES LATE

Causes of late arrival		Number
Locomotive difficulties, or preceding trains, including delays caused by inferior coal ... ..		269
Mishaps, failure of equipment other than locomotives ... ..		210
Adverse weather conditions ... ..		52
Engineering speed restrictions, station and signal delays and delays awaiting connecting services ... ..		449
Total ... ..		980

#### Numbers of Railway Staff

Mr. J. A. Sparks (Acton—Lab.) on November 5 asked the Minister of Transport if he would state the number of staff of all grades, showing shopmen separately, employed by the four main-line railway companies in 1938, 1944, and the nearest convenient date in 1947.

Mr. L. J. Callaghan in a written answer gave the following figures:

	March, 1938	March, 1944	March, 1947
Number of staff of all grades employed (excluding workshop staff) ... ..	459,671	476,885	502,909
Workshop staff ... ..	121,730	114,924	128,540
Total ... ..	581,401	591,809	631,449

#### London-Brighton Trains

Mr. T. C. Skeffington-Lodge (Bedford—Lab.) on November 10 asked the Minister of Transport whether he would investigate the position in which passengers travelling from Brighton to Victoria had been faced with a demand for a supplementary fare on trains which had been advertised to provide Pullman facilities but to which ordinary carriages were supposedly attached; and whether, if that continued he would issue instructions to have the position made clear in all timetables in respect of the trains concerned.

Mr. L. J. Callaghan in a written answer stated: Ordinary carriages form part of all trains except the "Brighton Belle," which is marked "1st and 3rd class Pullman Cars only" in the company's timetables.

#### Railway Accident at Goswick

Mr. W. McAdam (Salford North—Lab.) on November 3 asked the Minister of Transport (1) what period had elapsed between the usual daily examination of the permanent way at Goswick and the derailment of the Scottish express on October 26; and (2) when renewals of the permanent way had been last carried out at Goswick, and the nature of those renewals.

Mr. L. J. Callaghan stated in a written answer: An Inspecting Officer of Railways is holding an inquiry into this accident,

and will deal in his report with the points raised by Mr. McAdam. I should like to take this opportunity of expressing my deep sympathy, and I am sure that of the whole House, with the relatives of those who lost their lives and with those who were injured, not only at Goswick, but also at South Croydon.

#### Movement of Tees-side Steel

Captain G. R. Chetwynd (Stockton-on-Tees—Lab.) on November 10 asked the Minister of Transport whether he was aware of the hold-up in the movement of steel from Tees-side; and whether he would take immediate steps to expedite delivery and prevent dislocation in the steel industry.

butted stocks at a level well above that of last year does, however, considerably reduce the risk that this may occur.

#### Locomotives and Wagons out of Service

Mr. J. A. Sparks (Acton—Lab.) on November 4 asked the Minister of Transport if he would state the number of locomotives and wagons out of service and awaiting repair on the four main-line railways at the nearest convenient date.

Mr. L. J. Callaghan in a written answer stated: At September 6 the number of locomotives out of service and awaiting repairs was 3,815. The corresponding figure at October 11 for wagons, including privately-owned requisitioned stock, was 199,168.

#### Serviceable Locomotives and Wagons

Mr. J. A. Sparks (Acton—Lab.) on November 3 asked the Minister of Transport if he would state the number of serviceable locomotives in operation on the four main-line railways; and the number of serviceable wagons, including private owners', available for freight traffic, at the nearest convenient date and in 1944 and 1938; and by what percentages freight tonnage weekly averages in 1947 compared with 1944 and 1938.

Mr. L. J. Callaghan in a written answer gave the following figures:—

#### RAILWAY STOCK

	1947	1944	1938
Locomotives available (June) ... ..	16,611	17,680	15,872*
Wagons available (October) ... ..	1,020,760	1,171,482	1,194,800 (estimated)

#### ROLLING STOCK AVAILABILITY IN COMPARISON WITH TRAFFIC

	1947 as percentage of	1944	1938
Locomotives available ... ..	94.0	104.65	104.65
Wagons available ... ..	87.1	85.4	85.4
Freight tonnage originating (4 weeks to September 6) ... ..	98.4	106.3	106.3
Net ton-miles ... ..	90.7	135.6	135.6

\* Excluding 205 in store.

Note.—It is doubtful if the figures for locomotives for 1938 and subsequent years are strictly comparable.

#### Railway and Dock Facilities Improvements

Mr. C. Osborne (Louth—C.) on November 3 asked the Minister of Transport, in view of the several million pounds which were to be spent on modernising and improving the railway and dock facilities at Hull, why similar amounts could not be spent at Immingham and Grimsby; and if he would reconsider the needs of those two ports.

Mr. L. J. Callaghan stated in a written answer: The responsible body for putting forward schemes of this sort is the Port Authority for Immingham & Grimsby, and no proposals for major works have been received from it.

#### Fares in London Area

Mr. F. W. Skinnard (Harrow East—Lab.) on November 3 asked the Minister of Transport whether, having regard to the anomalies in fare charges in the London area, where for comparable journeys from adjoining stations there might be a 30 per cent. variation, he would instruct the British Transport Commission to give priority to a comprehensive survey of travel costs in the greater London District and to institute early in 1948 a public inquiry as a matter of urgency.

Mr. L. J. Callaghan stated in a written answer: I will bring Mr. Skinnard's question to the notice of the British Transport Commission, but, in view of the provision of section 76 of the Transport Act, I should not feel justified in asking it to give priority to considering discrepancies of fares in the London area, as they cannot be dealt with in isolation.

#### Turnround of Wagons

Mr. A. Edward Davies (Burslem—Lab.) on November 10 asked the Minister of Transport (1) what response had been made to his appeal for a quicker turnround of wagons; and what further action was proposed to secure improvement; and (2) whether any increase of demurrage charges had been or was being imposed to enforce the more rapid discharge of railway wagons.

Mr. L. J. Callaghan in a written answer stated: Action taken by Government departments, the National Production Advisory Council for Industry, the regional boards, the National Joint Advisory Council, the National Coal Board, and by the railways themselves has led to an improvement, but too many wagons are still held under load too long. Demurrage charges are at present under examination.

#### Coal Transport in Winter

Lt.-Colonel W. H. Bromley-Davenport (Knutsford—C.) on November 6 asked the Minister of Fuel & Power what were the plans of his department to ensure that there would be no shortage of coal supplies during the current winter in any particular part of the country owing to interference with the road and rail transport of coal by adverse weather conditions, such as snow and frost.

Mr. H. T. N. Gaitskell, in a written answer, stated: Transport plans are, of course, the responsibility of the Minister of Transport, but neither he nor I can give an absolute guarantee that shortage of coal supplies may not result from the effect of bad weather on road and rail transport. The existence of widely distri-



## Notes and News

**East Indian Railway Company.**—It has been notified recently that on September 30, 1947, total sums of £9,868,759 11s. 4d., £2,226,410 0s. 9d., and £4,225,169 2s. 9d., respectively, were invested for the purpose of providing a sinking fund in respect of the annuities "B," "C," and "D."

**Railway Signalling Technical Engineer Required.**—A railway signalling technical engineer, between 28 and 40 years of age, is required by the Siemens & General Electric Railway Signal Co. Ltd. Applicants must have knowledge of modern railway signalling theory and practice, particularly of providing a sinking fund in respect of the annuities "B," "C," and "D." See Official Notices, page 599.

**London Transport Coal Saving.**—Since January last, when the first of six boilers which are being converted from coal to oil burning was brought into use, more than 25,000 tons of coal have been saved at the Neasden power station of the L.P.T.B. The scheme involves boilers which previously used pulverised fuel, and when completed there will be a saving of 70,000 tons of coal a year, which represents about two-thirds of the Neasden consumption before the start of conversion.

**Spares for Hunslet W.D. Tank Locomotives.**—The Hunslet Engine Co. Ltd., Leeds, 10, announces a special spares policy to cover quickly and economically the requirements of all the 377 "austerity" six-coupled shunting tank locomotives built to Hunslet designs during the war years to the order of the Ministry of Supply (W.D. Nos. 75000 to 75199, 72520 to 77331, and 71437 to 71536). Numbers of these locomotives are operating in railway service, including 75 on the L.N.E.R., and also in many industrial yards.

**Herne Hill Accident Inquiry, Southern Railway.**—An inquiry by Lt.-Colonel G. R. S. Wilson into the collision at Herne Hill, Southern Railway, on November 6 (see our November 14 issue) was held in London on November 13. Evidence was given by the fireman of the steam train from Ramsgate, which collided with an electric train, that he saw a yellow light given by a fogman after leaving West Dulwich. The driver of the train said he accepted his fireman's assurance that the light displayed was yellow. The fogman said the train from Ramsgate passed him at between 30 and 35 m.p.h. and that he showed a red light after a detonator had been exploded. Later, the guard of the Ramsgate train said to him, "I saw your red light and I then knew something was wrong." The public inquiry was concluded.

**Motspur Park Accident Inquiry, Southern Railway.**—An inquiry was held by Lt.-Colonel G. R. S. Wilson on November 14 into the collision near Motspur Park Station on November 6, when four persons were killed (see our November 14 issue). The guard of the train from Holmwood to Waterloo, which collided with a train from Waterloo to Chessington, said that the motorman had told him he had a green light from the fog signal. Evidence was given by a fog signalman that after an Effingham train had passed, he put his lamp to red and replaced the detonator. Later, under the impression that the signal was "off," he took the detonator off the line. He said he had not been issued with instructions to climb the signal post in order to confirm the position of signals

when unable to see them. The motorman of the Chessington train said he lost his bearings because the light was out on Raynes Park Station platform, and he passed the platform although he should have stopped there. He was confident that he did not pass any colour-light signals.

**Tube Investments Limited.**—A final dividend of 12½ per cent. declared on the ordinary stock and liaison ordinary shares of Tube Investments Limited raises the distribution for the year ended August 2 from 22½ to 25 per cent. Aggregate profits of the subsidiary companies have risen from £2,048,422 in the previous year to £4,229,055, the foregoing figures being struck after provision for E.P.T. and depreciation, but before income tax and profits tax.

**United Steel Companies Limited.**—The full accounts of the United Steel Companies Limited for the year ended June 30 show a balance of trading profits of £3,484,516, as against £3,208,450 for 1945-46. Adding the estimated E.P.T. recoverable gives a total of £3,659,516, as compared with £3,608,450. During the year the further restrictions of coal supplies, which sometimes were less than the amount required for full production, was a brake on operations which affected the company's results adversely. The winter fuel crisis, it is stated, caused a loss in half a year at the company's works of 92,000 tons of pig-iron and 130,000 tons of steel.

**Platform Renumbering at Clapham Junction, Southern Railway.**—Platforms at Clapham Junction were renumbered on November 16 as part of the general renovation of the station by the Southern Railway. The platforms, formerly numbered 1 to 12, including island platforms carrying one number only for both sides, have been renumbered 1 to 17, in accordance with the modern practice of giving a separate number to every platform face. The platform signs, 160 of which are being installed at Clapham Junction, are of a special new design, finished in vitreous enamel. They will replace the older type gradually.

**New Hostels for G.W.R. Locomotive Men.**—A new hostel for locomotive men whose duties take them away from their home stations for a night is to be built by the G.W.R. at Landore, near Swansea. The hostel, which will provide sleeping cubicles for twelve men, will have a bathroom and shower. In the dining room, accommodation will be provided for forty persons so as to afford canteen facilities for non-resident staff, at present being catered for in dining cars. At Tyseley, the company has adapted and equipped Tyseley Hill House, which it owns, for use as a hostel for engineers; and at Bristol a house is to be purchased and converted to accommodate 40 men.

**Junior Institution of Engineers.**—On December 12, at 6.30 p.m., the inaugural meeting of the 67th session of the Junior Institution of Engineers will be held at the Royal Society of Arts, John Adam Street, Adelphi, W.C.2. Major-General A. W. Sproull will present the awards won by members during the past session, and will then induct Mr. R. A. Riddles as President of the Institution. Mr. Riddles will deliver his presidential address, entitled "Coronation Scot—A Railway Development." Other forthcoming meetings include formal meetings on November 28 and December 5, at 39, Victoria Street,

S.W.1, when, respectively, a paper on "Metal Spraying" will be given by Mr. J. Barrington Stiles, and films on "Oil Production—Ancient and Modern," will be introduced by Mr. W. M. Hurrell.

**William Asquith Limited.**—The balance of profit available, after providing for taxation and other charges for the year ended August 14, is £3,538, comparing with £20,428 in the preceding year. After adding the balance of £12,697 brought in from the previous year, the sum available for distribution is £48,080.

## British and Irish Railway Stocks and Shares

Stocks	Highest 1946	Lowest 1946	Prices	
			Nov. 18, 1947	Rise Fall
G.W.R.				
Cons. Ord. ....	61½	54½	55	+ 1
5% Cons. Pref. ....	126½	107	116½	+ 2
5% Red. Pref. (1950) ..	106½	102½	98½	—
5% Rt. Charge ....	140½	122½	129½	+ 1
5% Cons. Guar. ....	137½	118½	127½	+ 1
4% Deb. ....	129½	106	120	+ 1
4½% Deb. ....	129½	107	119½	+ ½
4½% Deb. ....	130½	114	121½	+ 1
5½% Deb. ....	142½	125	132½	+ 1
2½% Deb. ....	95½	81½	88½	—
L.M.S.R.				
Ord. ....	30½	26½	28	+ ½
4% Pref. (1923) ....	64	52½	58½	+ 1½
4% Pref. ....	86	75½	79½	+ 1½
5% Red. Pref. (1955) ..	105½	97	97½	+ 3
4% Guar. ....	108½	100	100½	+ 1½
4% Deb. ....	120	103	111	+ 1½
5% Red. Deb. (1952) ..	108½	105½	100½	—
L.N.E.R.				
5% Pref. Ord. ....	7	5	6½	—
Def. Ord. ....	3½	2½	3½	—
4% First Pref. ....	59½	50½	54½	+ 1½
4% Second Pref. ....	29½	25½	27½	+ 1½
5% Red. Pref. (1955) ..	104	97	95½	+ 1
4% First Guar. ....	107	98	99½	+ 2
4% Second Guar. ....	101	90	94	+ 2½
3% Deb. ....	104	87½	97	+ 2
4% Deb. ....	119½	102½	110½	+ 1½
4½% Sinking Fund Red. Deb. ....	107½	101½	98½	—
SOUTHERN				
Pref. Ord. ....	79½	70	71½	+ ½
Def. Ord. ....	24	19½	23½	+ 2
5% Pref. ....	125½	107	115½	+ 1
5% Red. Pref. (1964) ..	115½	106½	106½	+ 1
5% Guar. Pref. ....	137½	119	127½	+ 1
5% Red. Guar. Pref. (1957) ....	115½	107½	106½	—
4% Deb. ....	129½	105½	120	+ 1
5% Deb. ....	139½	125½	128½	—
4% Red. Deb. (1962- 67) ....	113½	104½	105½	+ 1
4% Red. Deb. (1970- 80) ....	115½	104½	106½	+ 1
FORTH BRIDGE				
4% Deb. ....	109	103	99½	+ 1
4% Guar. ....	105	102	95½	+ 1
L.P.T.B.				
4½ "A" ....	133½	120½	123½	+ 1
5% "A" ....	142½	130½	131½	+ 1
3% Guar. (1967-72)...	108	98½	98½	—
5% "B" ....	128½	117½	119½	+ 2
5% "C" ....	64½	56½	61½	—
MERSEY				
Ord. ....	34	30	32½	—
3% Perp. Pref. ....	76	69	70½	+ 2
4% Perp. Deb. ....	117½	103	107	+ 1
3% Perp. Deb. ....	98	81	88½	—
IRELAND*				
BELFAST & C.D.				
Ord. ....	8½	6	7½	—
G. NORTHERN				
Ord. ....	41½	30½	21½	- 1½
Pref. ....	63½	52	38	—
Guar. ....	97½	78½	72	—
Deb. ....	107	97½	90	—
IRISH TRANSPORT				
Common ....	19½	16½	13½	—
3% Deb. ....	107	100	101	—

\* Latest available quotation

## OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

## South African Railways

## NARROW GAUGE ROLLING STOCK

TENDERS will be called for in the near future by the South African Railways Administration in Johannesburg for the following:—

Tender No. 7530: 5 Class "N.G.15" Locomotives.

Tender No. 7531: 7 Class "N.G.16" Locomotives.

Copies of the tenders will be available only in South Africa, but in view of the fact that the locomotives are so urgently required, and approximately only 2 months will be allowed for the submission of offers, intending tenderers may wish to obtain copies of the relative drawings in advance of the issue of the Tenders. These are now available and copies may be obtained at tenderer's own expense from the Printers, Messrs. Hodges, Bennett & Co. Ltd., 59 & 60, Petty France, Westminster.

**60-TON Electric Luffing Crane**, 145 ft. jib, to lift 60 tons at 55 ft. radius; 16 tons at 120 ft. radius. Height of lift from 50 ft. below to 86 ft. above rail level. Rail centres 53 ft. Motorised—100 b.h.p. Lifting and luffing motors, 150 b.h.p. Travel motor, 400/3/50. No slewing motion. Illustration on request.—**Cox & Danks Limited**, Plant & Machinery Dept., Frederick Road, Manchester, 6; Scapa Works, Wadley Bridge, Sheffield; Langley Green, Oldbury; Faggs Road, Feltham, Middx.

**WANTED** to commence as soon as possible: Foreman Engineer to take charge of a Wagon Repair Yard in the Bristol Area. Competent man required, able to control and instruct foreign labour. —Apply in writing to **PERSONNEL MANAGER, INTRADE LIMITED**, Civil Engineering Contractors, Intrade House, Little Warley, Brentwood, Essex.

**"PELL"** Punching and Shearing Machine: Shear capacity 1 in. thick plate; punch capacity 1 in. dia. x 1 in. thick; depth of gap 2 ft. 4 in. Arranged for direct motor drive, approx. 20 h.p. required. In good condition.—**Cox & Danks Limited**, Plant & Machinery Dept., Faggs Road, Feltham, Middx. Phone: Feltham 3471.

**RAILWAY SIGNALLING**. Technical Engineer. Age 28-40 years. General education of Matriculation standard. Must have knowledge of modern railway signalling theory and practice, particularly of power systems. Must be able to prepare interlocking and control tables and draft electrical circuits, and be capable of testing installation wiring. Applicants should apply in writing, giving age, training, experience, and salary required, to **THE SIEMENS & GENERAL ELECTRIC RAILWAY SIGNAL CO. LTD.**, East Lane, Wembley.

**STEEL STRUCTURES** purchased, dismantled and removed. Industrial steel structures re-built, re-roofed and renovated. Steel factory buildings dismantled, re-erected or adapted on other sites.—**BELLMAN HANGARS LIMITED**, Terminal House, Grosvenor Gardens, London, S.W.1. Sloane 5259.

**RAILWAYS AND NATIONALISATION**. By E. A. Pratt. A book for those who wish to study the question from the point of view of practical politics. Cloth. 7½ in. by 5½ in. 454 pp. 2s. By post 2s. 6d.

A final dividend of 10 per cent., less income tax, is proposed on the ordinary shares; an interim dividend of 5 per cent., less income tax, has been paid already. The company is transferring £15,000 to reserve for exhibition and publicity expenses, and carries forward a balance of £19,064.

**Murex Limited**.—A statement by the Chairman of Murex Limited, Mr. George P. Joseph, which was circulated with the report and accounts at the annual meeting, recorded improved demand in this country for the company's products. Shortage of steel supplies had prevented the whole of the increased demand for welding electrodes being met. Export orders attained three times the value of the previous year, and this was attributed to the company's policy of building up a strong export organisation. This had been pursued energetically since the closing stages of the war, and was now completed. The company has changed its financial year to close on April 30 instead of on June 30 as hitherto.

**Silverton Tramway Co. Ltd.**—The directors' report for the year ended June 30 shows a net profit, after providing £21,500 for taxes, of £34,117, compared with £37,145 in the previous year. Adding £9,017 brought forward from the previous year, gives a total sum available of £43,134. An interim dividend of 6d. per share paid on March 29 took £12,500, and a similar provision has been made for the final dividend. The company is allocating £5,000 to reserve for replacement of rolling stock, bringing that reserve up to £30,000. The balance carried forward is £11,995. Although tonnages of mine concentrates, coal, and timber declined considerably, there were satisfactory increases in general goods, wool, and livestock, the revenue from tramway operations increasing from £155,086 to £161,941.

**Renold & Coventry Chain Co. Ltd.**—Mr. Charles G. Renold, Chairman of the Renold & Coventry Chain Co. Ltd., records a substantial increase in production in a statement issued with the report and accounts of the company, for the past year. Demand showed every sign of increasing both at home and abroad, and the allocation of output between the two markets was the subject of constant consultation with the competent authorities. Mr. Renold considered it likely that ample allocations of steel would be received because of the incorporation of the company's precision chains at innumerable points in

machinery of every kind. It remained to be seen, however, whether these requirements could be met by the company's suppliers. Looking further ahead, it was clear that the company's existing capacity was insufficient to meet demand. Further expansion was inevitable, but it would have to wait until building and manufacture were less conditioned by national exigencies.

**Diesel-Electric Shunters for the L.N.E.R.**—Approval has been given by the board of the L.N.E.R. to extend the use of diesel-electric traction, and the purchase is contemplated of 176 diesel-electric locomotives of 350 h.p. for shunting duties, which will displace 217 steam locomotives.

**Lightalloys Limited**.—In a statement issued with the report and accounts of Lightalloys Limited at the recent general meeting, the Chairman, Mr. J. C. Colquhoun, said that the year had been a difficult one. There had been a complete shutdown for three weeks in February, and partial stoppages due to load-shedding. To minimise the latter, and to avoid staggered hours or night-working, the company had installed auxiliary generating plant. Their order book showed a sustained improvement, but it was too early to forecast the effect of the Government's revised export programme on their business. A final dividend of 10 per cent. less income tax was declared, making a total of 15 per cent. for the year, against 20 per cent. for 1945-46.

**John I. Thornycroft & Co. Ltd.**—A statement authorised by the directors of John I. Thornycroft & Co. Ltd. shows a trading profit for the year ended July 31 of £461,950, as against £450,949. The provision for taxation is £350,000, compared with £349,525, and the net profit for the year has increased from £101,424 to £111,950. The following dividends are recommended: 3 per cent. on the cumulative preference shares, making 6 per cent. for the year; 5½ per cent. on the participating preferred ordinary shares, making 9 per cent. for the year; and 10 per cent. on the ordinary shares, making 15 per cent. for the year, together with a 7½ per cent. bonus. The foregoing dividends are subject to income tax at 9s. in the £. In the previous year the dividend rates were the same as those just stated, but the ordinary bonus was 5 per cent. After again making a transfer of £50,000 to general reserve, and allowing £4,697 for the additional profits tax on dividends, the

carry-forward will be £102,309, as against £101,156 brought in.

**Jugoslav "Youth Railway" Opened to Sarajevo**.—Marshal Tito, Premier of Yugoslavia, on November 16 welcomed the first train to run on the Jugoslav "Youth Railway" from Samac to Sarajevo. The line was built during the summer by youth volunteers from many nations, including Great Britain (see our July 11 issue). Reuters reports that Dr. Sinisha Stankovitch, President of the Jugoslav Constituent Assembly, General Alexander Rankovitch, Minister of the Interior, M. Joksimovitch, Minister of Transport, and youth leaders also met the train at Sarajevo. All Jugoslav papers devoted their leading articles to the new railway. More than 400 students and workers, about a third of them girls, formed the "British Brigade" who worked to build the line.

**Southern Railway Lecture & Debating Society**.—On November 13 some 150 members of the Society heard a paper by Mr. C. M. Cock, Chief Electrical Engineer, Southern Railway, on "India." This was an innovation in being a lecture on a non-transport subject; but Mr. Cock's lucid treatment of the subject, which traced in detail India's historical background and present economic and political situation, won approbation from his audience. On November 15, 50 members visited Southampton docks, commencing with a visit to the *Queen Elizabeth* in the King George V graving dock. They were joined in the afternoon by another party of members from London. The next visit will take place on December 2, to the Post Office Tube Railway, Mount Pleasant. The next lecture, entitled "The Divisional Work of the Engineer's Department," will be given at the Chapter House, Southwark, on December 4.

## Forthcoming Meetings

**December 1 (Mon.)**—The Institute of Transport, Metropolitan Section, Livingstone House, Broadway, S.W., at 5.30 p.m. for 6 p.m. "Carriage-Paid Conditions for Goods by Merchandise Train" by Mr. R. F. Woodhouse, Graduate.

**December 2 (Tues.)**—The Institution of Civil Engineers, Great George Street, Westminster, at 5.30 p.m. "The Heysham Jetty" by Professor A. L. L. Baker, B.Sc., Tech., M.I.C.E.

## Railway Stock Market

Stock markets have had to contend with a batch of conflicting factors, and as a result, business in most sections remained on a limited scale. The interim Budget was followed by a sharp rise in industrial shares, because the proposals were regarded as making no serious attempt to deal with inflation; while despite the doubling of the Profits Tax, the market assumption is that many companies may be able to maintain dividends, bearing in mind that future results will reflect the repeal of E.P.T. There has been a tendency to favour shares of export trade companies, more particularly those which have been large E.P.T. payers in recent years.

The dramatic resignation of Mr. Dalton was followed by a widespread tendency to await Sir Stafford Cripps' first speech as Chancellor. The latter, however, threw little fresh light on the position. Sir Stafford supports the interim Budget proposals, and for the time being at any rate, is also in agreement with the "cheap money" policy. Nevertheless, the market is doubtful if the new Chancellor will favour continuing the policy of official support for the gilt-edged market in order to boost prices; and although he is a declared supporter of "cheap money," in view of the short time available and the unsettling influence of the latest developments, the market is now uncertain whether it will be possible for gilt-edged prices to advance sufficiently to enable British Transport stock to be issued as a long-dated 2½ per cent. stock. In fact, there has been growing talk of interest being 3 per cent., and this has been given as the

reason for the rising tendency now shown by home rails. As has been pointed out in these notes on various occasions, views as to the rate of interest on British Transport stock are not the main influence on market prices of home rails. Most of the latter are still substantially below take-over prices.

It seems probable that market prices will continue their upward trend and approximate to take-over levels by the end of the year. In view of the uncertainty which surrounds the outlook for gilt-edged stocks, home rails appear to have added attractions as a means of acquiring an indirect interest in this market. Having the protection of the take-over prices, they offer a promising means of acquiring a short-term interest in gilt-edged. Moreover, most existing holders must have now decided to exchange into British Transport stock, and therefore with very little selling, home rail prices may very well respond steadily to improvement in demand. They have risen on balance by a point this week, but are still moderately valued in most cases. Take, for example, Great Western 4 per cent. debentures, which although better on balance for the week at 120½, are still well below the official take-over price of 128½.

Argentine rails have been somewhat more active, the market still being hopeful of an early agreement on the U.K.-Argentine financial talks, which presumably is regarded as necessary by Argentina before the Republic finally ratifies the railway agreement. There has been rather more business in Argentine rails, buyers being attracted by the fact that current prices

are well below pay-out levels, and also by the fact that Argentine rails provide an outlet for money in securities which are not directly affected by economic and political developments at home. Central Uruguay stocks continued to attract some attention on further talk of "take-over" developments, and elsewhere, United of Havana 1906 debentures strengthened to 15½. Antofagasta issues were maintained, and in other directions, San Paulo at 161 have been steady, although it now seems that purchase money for the railway may not arrive from Brazil this year.

Iron and steel shares attracted rather more attention, the latest coal output figures helping sentiment. Moreover, it was pointed out in the market that there seem reasonable prospects of many leading companies maintaining dividend payments, because in numerous instances they have been big E.P.T. payers in the past, and the repeal of E.P.T. will offset the doubled Profits Tax in a large measure. Dorman Long have been steady at 28s., awaiting the report and accounts; Colvilles were firm at 28s. 9d.; while in response to the higher payment, Tube Investments rose to £6½, and Stewarts and Lloyds moved up to 54s. 6d. Babcock & Wilcox improved to 70s. 3d., and Clarke Chapman have been firm at 54s. Locomotive building and engineering shares attracted more attention on export trade prospects, Vulcan Foundry improving to 30s., while Beyer Peacock were 23s. 6d., North British Locomotive 27s. 6d., and Charles Roberts changed hands over £6½. In other directions, T. W. Ward have risen to 49s. G. D. Peters 5s. shares marked 15s. 7½d.

### Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week		No. of Week	Aggregate traffics to date			Shares or Stock	Prices		
				Total this year	Inc. or dec. compared with 1945/46		Totals		Increase or decrease		Highest 1946	Lowest 1946	Nov. 18, 1947
							1946/7	1945/6					
South & Central America	Antofagasta ...	834	9.11.47	£ 54,060	+ 18,310	45	£ 1,926,300	£ 1,513,680	+ £ 412,620	Ord. Stk.	11	10½	12
	Arg. N.E. ...	753	8.11.47	ps. 353,800	+ ps. 55,100	19	ps. 6,308,700	ps. 5,900,200	+ ps. 408,500	"	17	5	10
	Bolivar ...	174	Oct., 1947	\$105,321	+ 89,383	43	\$1,073,351	\$1,084,538	— \$11,187	6 p.c. Deb.	64	5½	22½
	Brazil ...	...	...	...	...	...	...	...	...	Bonds	30	26	40
	B.A. Pacific ...	2,771	8.11.47	ps. 2,600,000	+ ps. 240,000	19	ps. 47,885,000	ps. 41,893,000	+ ps. 5,992,000	Ord. Stk.	84	5½	10
	B.A.G.S. ...	5,080	8.11.47	ps. 3,485,000	+ ps. 324,000	19	ps. 62,148,000	ps. 61,008,000	+ ps. 1,140,000	Ord. Stk.	16	10½	16½
	B.A. Western ...	1,924	8.11.47	ps. 1,366,000	+ ps. 125,000	19	ps. 26,291,000	ps. 22,788,000	+ ps. 3,503,000	"	19	9½	21
	Cent. Argentine ...	3,700	8.11.47	ps. 3,389,200	+ ps. 97,100	19	ps. 63,423,860	ps. 59,077,125	+ ps. 4,346,735	"	10½	7½	17
	Do. ...	...	...	...	...	...	...	...	...	Dfd.	6	4½	11½
	Cent. Uruguay ...	970	8.11.47	29,734	+ 9,335	19	596,100	685,887	— 89,787	Ord. Stk.	8½	3½	24
	Costa Rica ...	262	Oct., 1947	34,978	+ 4,097	18	128,051	112,213	+ 15,838	Stk.	15	12	8½
	Dorada ...	70	Oct., 1947	26,800	+ 3,300	44	300,900	309,975	+ 9,075	1 Mt. Deb.	102½	99½	108
	Entre Rios ...	808	8.11.47	ps. 402,900	+ ps. 3,400	19	ps. 8,302,300	ps. 7,844,900	+ ps. 457,400	Ord. Stk.	9	5½	10
	G.W. of Brazil ...	1,030	8.11.47	41,700	+ 4,700	45	1,465,500	1,284,100	+ 181,400	Ord. Stk.	26	20½	2½
	Inter. Ctl. Amer. ...	794	Sept., 1947	\$899,119	+ \$177,926	39	\$9,911,187	\$8,024,842	+ \$1,886,345	5 p.c. Deb.	70	58	83½
	La Guaira ...	22½	Oct., 1947	887,799	+ 18,478	43	\$1,075,894	\$1,165,843	+ \$88,949	Ord. Stk.	26	20½	2½
	Leopoldina ...	1,918	8.11.47	59,479	+ 8,056	45	2,979,027	2,722,780	+ 256,247	Ord. Stk.	5	3½	13
	Mexican ...	483	31.5.47	ps. 1,464,000	+ ps. 459,100	22	ps. 7,706,200	ps. 13,441,600	+ ps. 5,735,400	Ord. Stk.	1½	4	1
	Midland Uruguay ...	319	Sept., 1947	15,425	+ 6,210	13	49,070	61,604	+ 12,534	—	—	—	—
	Nitrate ...	113	Sept., 1947	6,275	+ 293	13	13,529	18,149	+ 4,620	Ord. Sh.	83/9	71/3	62/6
	N.W. of Uruguay ...	274	7.11.47	£71,820	+ £11,170	19	£1,087,843	£1,152,741	+ £64,898	Pr. Li. Stk.	78½	60	49½
Paraguay Cent. ...	1,059	Oct., 1947	178,377	+ 25,140	18	696,140	629,700	+ 66,440	Pr. Li. Stk.	16½	8½	8½	
Peru Corp. ...	100	Sept., 1947	c78,000	+ c19,000	13	c235,000	c249,000	+ c14,000	Ord. Stk.	119½	52½	161	
San Paulo ...	153½	Oct., 1947	7,855	+ 960	17	24,270	20,155	+ 4,115	Ord. Sh.	22½	15½	18½	
Taital ...	156	Oct., 1947	7,855	+ 960	17	24,270	20,155	+ 4,115	Ord. Sh.	22½	15½	18½	
United of Havana ...	1,301	6.9.47	57,974	+ 12,420	10	597,603	541,437	+ 56,166	Ord. Stk.	2	1½	1½	
Uruguay Northern ...	73	Sept., 1947	1,007	+ 211	13	3,255	3,825	+ 570	—	—	—	—	
Canada	Canadian National ...	23,535	Sept., 1947	9,120,750	+ 513,750	39	80,943,000	72,529,500	+ 8,413,500	—	—	—	—
	Canadian Pacific ...	17,037	Sept., 1947	6,943,250	+ 463,500	39	58,232,250	53,661,750	+ 4,570,500	Ord. Stk.	25½	16½	17½
Various	Barsi Light ...	202	Sept., 1947	20,947	+ 5,362	26	159,525	144,900	+ 14,625	Ord. Stk.	123½	111	103½
	Beira ...	204	Aug., 1947	113,063	+ 20,637	48	1,040,485	859,846	+ 180,639	—	—	—	—
	Egyptian Delta ...	607	30.9.47	17,756	+ 829	26	296,832	309,781	+ 12,949	Pr. Sh.	9½	5	6
	Manila ...	...	...	...	...	...	...	...	...	B. Deb.	75	60	80½
	Mid. of W. Australia ...	277	Sept., 1947	21,251	+ 2,575	13	58,967	48,624	+ 10,343	Inc. Deb.	85	70	74½
	Nigeria ...	1,900	Sept., 1947	349,839	+ 6,103	26	2,086,405	2,251,155	+ 164,750	—	—	—	—
	Rhodesia ...	2,445	Aug., 1947	585,421	+ 101,269	48	6,143,623	5,633,517	+ 510,106	—	—	—	—
	South African ...	13,323	11.10.47	1,253,733	+ 143,102	28	34,532,750	31,067,635	+ 3,465,115	—	—	—	—
	Victoria ...	4,774	June, 1947	1,110,647	+ 86,014	52	—	—	—	—	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee